



As Certified by The Financial Oversight and Management Board for Puerto Rico  
June 29, 2018

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- This Revised Fiscal Plan is based on what the Oversight Board believes is the best information currently available to it. To the extent the Oversight Board becomes aware of additional information after it certifies this Revised Fiscal Plan that the Oversight Board determines warrants a revision of this Revised Fiscal Plan, the Oversight Board will so revise it.

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## I. EXECUTIVE SUMMARY



- **Puerto Rico's economic development requires an efficient transportation system that provides safety, sustainability and high-quality service for its citizens.** A safe and efficient transportation system, with feasible options for public transit, is the right of every Puerto Rican, and an imperative for economic development. The Puerto Rico Highways and Transportation Authority (HTA) has four objectives aligned with this goal: (a) transit security and safety projects, (b) improvement of existing transportation infrastructure, (c) completing highway systems, and (d) traffic reduction. This mandate was made dramatically more difficult in the face of Hurricane Maria, which severely damaged the Island's highway and public transit networks (current estimates of the damages are at \$750M+ and growing). The Revised Fiscal Plan for HTA provides a roadmap for transforming not only the Authority, but also infrastructure across Puerto Rico to catalyze economic growth.
- **HTA must transform drastically to achieve its goals.** Recent performance of this system has lagged nationwide targets. The Puerto Rico transportation system has among the highest fatality rate, poorest pavement conditions, and worst costs of congestion nationwide. HTA has amassed over \$6B of debt, and has been unable to deliver on its CIP in recent years, despite underutilization of its workforce. Potential inflation in the construction market after Hurricane Maria constitutes a major risk that would adversely impact HTA's ability to deliver on a necessary capital program. Given this inflation risk, the CIP will need to be regularly evaluated to ensure successful delivery. HTA faces the task of improving this performance as the responsible entity for developing, operating and maintaining Puerto Rico's toll roads, highway network, and mass transportation facilities.
- **The Revised Fiscal Plan provides a roadmap to ensure a successful transformation of HTA.** The Revised Fiscal Plan transforms HTA from an in-house infrastructure developer to an independently governed contract manager to deliver on a \$3B capital program while capturing \$415M in revenue and expense opportunities. The plan represents a step change in performance from the recent past. The governance and operating model will be dramatically transformed to orient around outcomes and efficient delivery. At its peak, the capital program is expected to increase by 5x the size of recent programs delivered, on the heels of an MOU with FHWA to improve delivery. Successful implementation of the Revised Fiscal Plan will ensure HTA is fiscally sustainable, maintains its assets in a state of good repair, reduces traffic in the system, and is prepared for future disasters.

**Successfully implementing a comprehensive transportation sector transformation will require HTA to deliver on the following activities, as detailed in the Revised Fiscal Plan:**

- **Improving governance and performance management:** The Revised Fiscal Plan outlines a strategy to develop organizational KPIs to incentivize and monitor performance across the organization at the operational level and to ensure that the leaner organization can deliver on its capex plan. The Revised Fiscal Plan also calls for the recruitment and engagement a Board of diversified professionals to define and implement HTA's long term strategy.
- **Pursuing greater revenue opportunities:** The Revised Fiscal Plan details strategies to pursue additional operating revenue opportunities including toll increases and optimization (to ensure that purchasing power of toll revenues keeps up with inflation), discretionary federal funding (including the Community Development Block Grant allocation to Puerto Rico), and ancillary revenue opportunities from real estate, signage, and advertising.
- **Focusing on operational excellence including capital efficiency:** The Revised Fiscal Plan optimizes capital expenditures through improved project prioritization based on economic benefits/safety, enhanced delivery, and soft cost reductions. To also optimize operating expenses, the Revised Fiscal Plan requires that certain contracts are re-bid using Title III processes to be in line with competitive benchmarks. To right-size the organization and become a best-in-class lean department of transportation, HTA will complete early retirement programs (Law 211) that are already in progress, and further workforce transition efforts to reduce personnel cost by 15%. HTA will also continue to evaluate concession opportunities that create value, and capture pension savings related to the reform of the Employees Retirement System as detailed in the New Commonwealth Fiscal Plan dated April 2018.
- **Reducing traffic to drive economic growth:** HTA will complete projects already in progress to reduce traffic (e.g. DTL, BRT) and plan for additional projects to further promote economic growth and revenue benefits.

## II. DESCRIPTION OF PRHTA

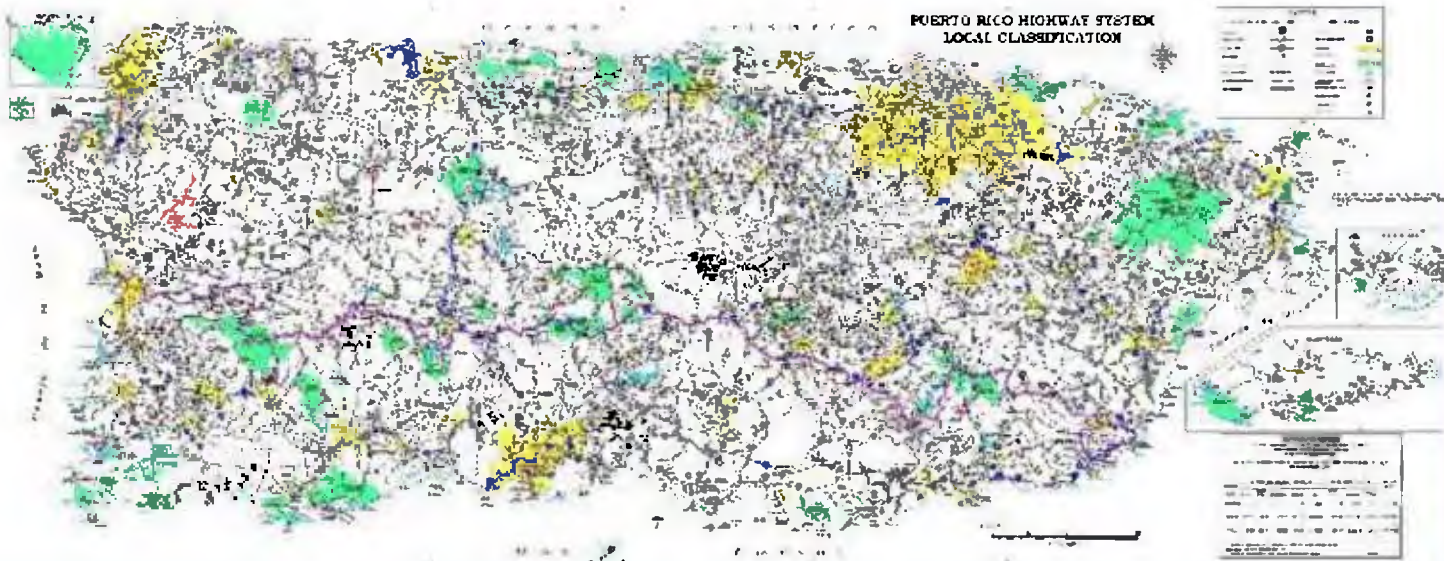
Lead Puerto Rico towards economic development through an efficient transportation system, safely and in accord with the environment, while procuring the delivery of excellent service

Develop and promote an integrated transportation system that, along with a highway infrastructure and service delivery, will facilitate the economic development of Puerto Rico in harmony with the environment

- HTA is a public corporation founded with the purpose of continuing the government’s effort of providing the public with the best highways, easing the flow of vehicles, and minimizing the risks and inconveniences that traffic congestions may cause.
- HTA is charged with constructing, operating, and maintaining Puerto Rico’s toll road network, major highways and mass transportation facilities, which are financed by revenue bonds, federal grants and specified tax revenues.
- The Puerto Rico State Highway System consists of a total of **4,605 miles**:

**Breakdown by type of Road:**

Toll Roads (incl. PR 22 & 5) – 185.6 miles  
Primary Roads (incl. Urban) – 986 miles  
Secondary & Tertiary Roads – 3,434 miles  
**Total = 4,605 Miles**



SOURCE: <http://www.dtop.gov.pr/historia.asp>



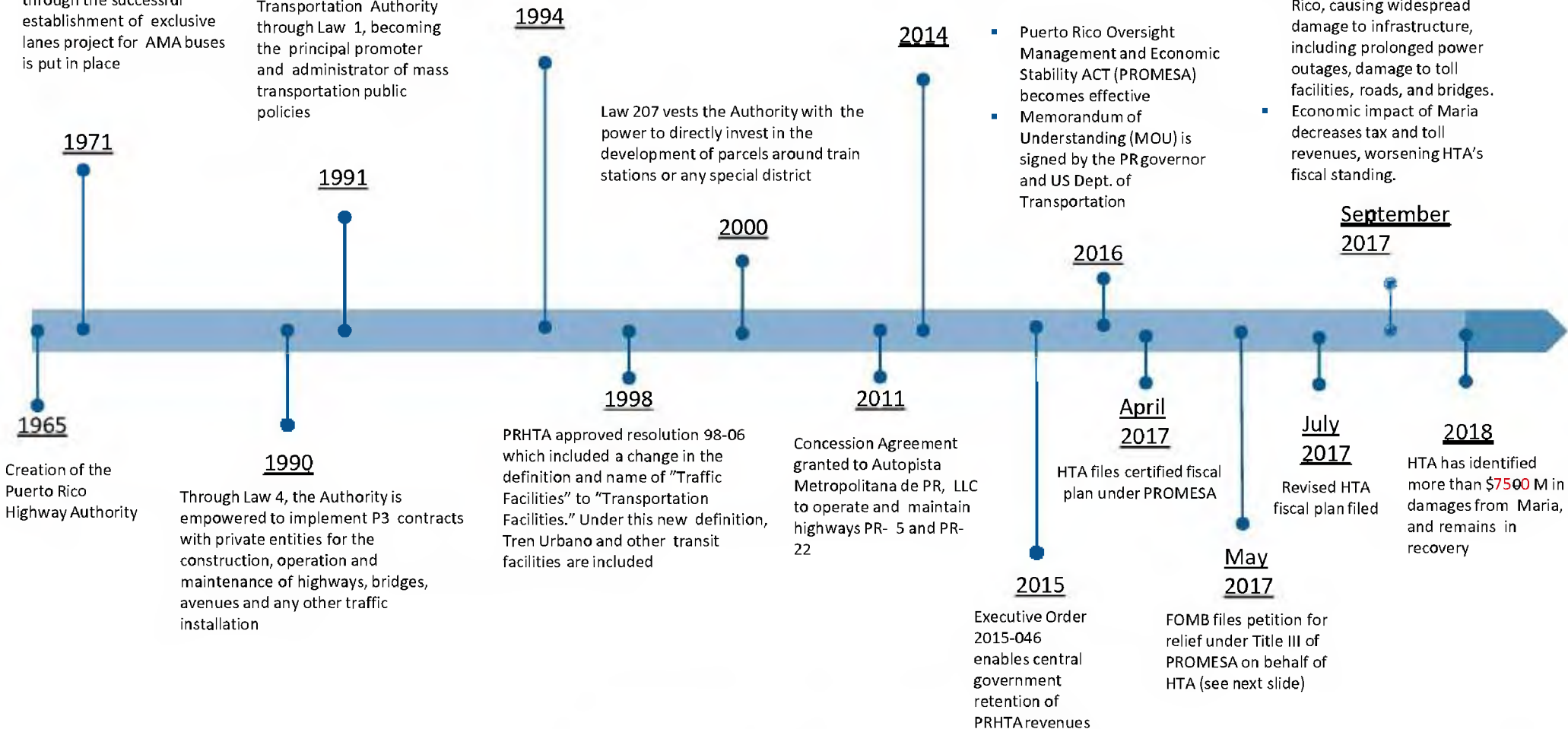
- HTA falls under DTOP's umbrella through the Reorganization Plan Num 6, conceding its powers and duties to the Secretary
- Integration of the mass transportation sector through the successful establishment of exclusive lanes project for AMA buses is put in place

The Secretary of DTOP grants the name Highways and Transportation Authority through Law 1, becoming the principal promoter and administrator of mass transportation public policies

The construction of Teodoro Moscoso Bridge is completed, becoming the first highway privatization project in PR and the US with an investment of \$126M

- Toll Credits were implemented to benefit HTA by using the credits to substitute the required local share on future Federally aided projects
- Law 41-2014 amended the Organic Act of PRHTA to vest its powers in a Board of Directors

- Hurricane Maria hits Puerto Rico, causing widespread damage to infrastructure, including prolonged power outages, damage to toll facilities, roads, and bridges.
- Economic impact of Maria decreases tax and toll revenues, worsening HTA's fiscal standing.





SOURCE: [http://www.dtop.gov.pr/carretera/det\\_content.asp?cn\\_id=217](http://www.dtop.gov.pr/carretera/det_content.asp?cn_id=217)

## Financial Sustainability, Federal Agencies & PROMESA

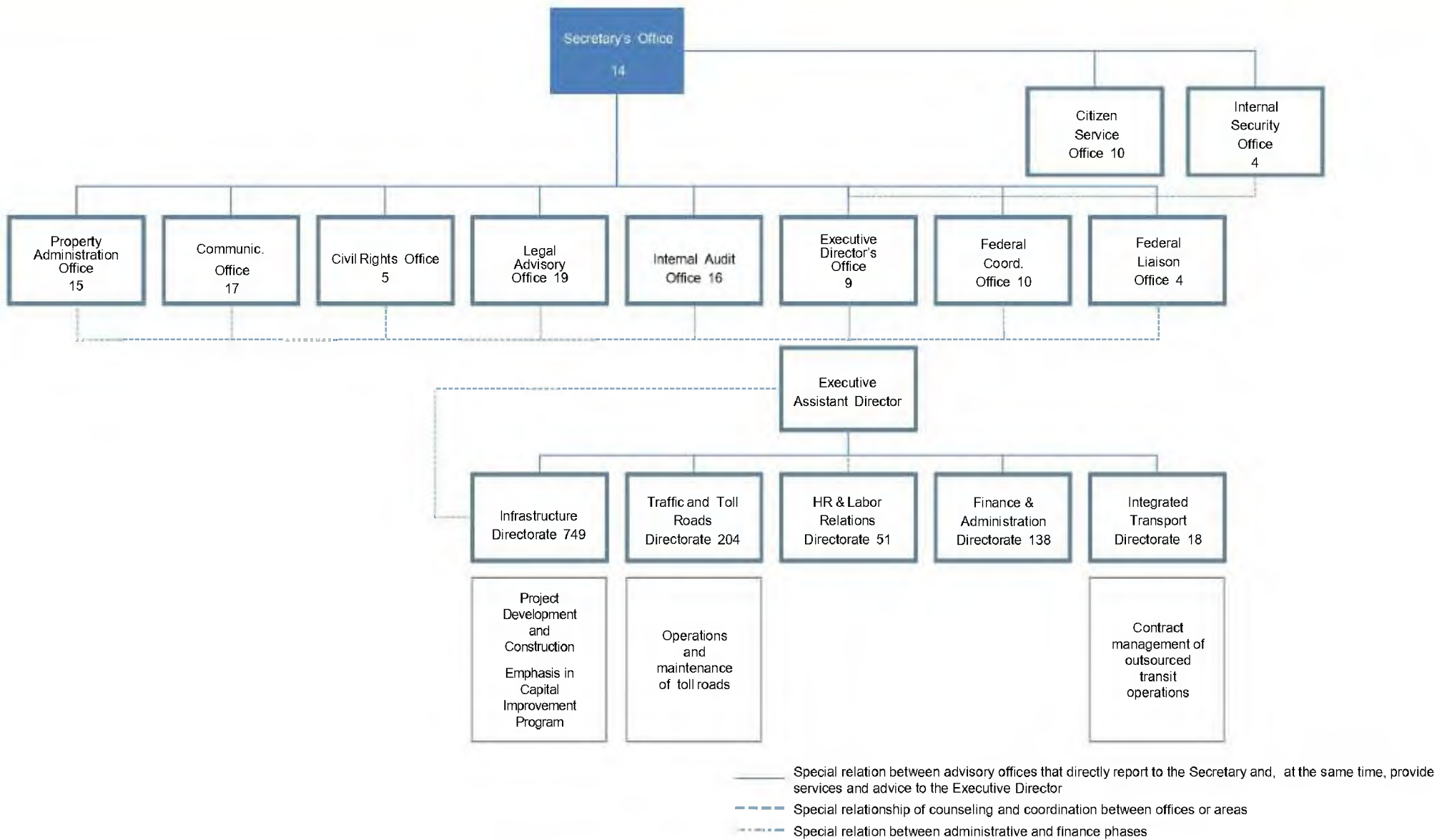
- The **Puerto Rico Oversight, Management, and Economic Stability Act (PROMESA)** establishes a process for the restructuring of debt towards sustainable levels but not before the certification of its Fiscal Plan by the Oversight Board. HTA has filed for Title III protections under PROMESA and will continue to work with all the federal agencies (including FTA & FHWA) as partners throughout the Title III process in order to achieve our common objectives.
- HTA receives about \$158.8M per year from FTA and FHWA. Conditions of this funding require that the grantee demonstrates specific and well-defined technical, financial and organizational capabilities. There are federal requirements associated with continued operation and disposition of grant-funded assets that constrain HTA's flexibility to some extent.
- FTA and FHWA agreements require continued operation of grant-funded assets, limiting HTA's options for reducing operating costs of systems which relied on central government revenue which has since been retained.
- HTA recognizes that its continued partnership with Federal partners, including FHWA and FTA are critical to the continued development of the Commonwealth's transportation network and the health of Puerto Rico's economy. HTA will continue to work collaboratively and inclusively with federal agencies to ensure it meets all federal funding requirements.

HTA receives federal funds from two agencies, the Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA). This funding requires a grantee to demonstrate that it has specific and well-defined technical, financial, and organizational capabilities.

FHWA		FTA	
			
<p>Agency within the U.S Department of Transportation responsible for administering the federal-aid highway program and highway transportation programs of the Department of Transportation.</p>		<p>Provides financial and technical assistance to local public transit systems, including buses, subways, light rail, commuter rail, trolleys and ferries. The FTA also oversees safety measures and helps develop next-generation technology research.</p>	
<p>According to 23 U.S.C. § 302 and Title 23 of the Code of Federal Regulations, any state needs to be suitably equipped and organized to discharge to the satisfaction of the Secretary the duties required by this title. In the following areas:</p> <ul style="list-style-type: none"><li>▪ Payment procedures- Chapter 1, subchapter 8</li><li>▪ Planning/Environmental- Section 135, Chapter I, Subchapter E</li><li>▪ Design- Highway Standard/ Design Criteria- Section 109, Chapter I, Subchapter G</li><li>▪ Construction and Contracting Procedures- Chapter I, Subchapter G</li><li>▪ Transportation Infrastructure Management- Chapter I, Subchapter F</li><li>▪ Maintenance- Properly Maintenance all Roads- Section 116</li><li>▪ Highway Safety- Section 402, Chapter I, Subchapter II</li><li>▪ Right of Way and Environment- Chapter I, Subchapter H</li></ul>		<p>To become a grantee of FTA, HTA is required to meet the following minimum criteria:</p> <ul style="list-style-type: none"><li>▪ Legal Capacity</li><li>▪ Technical Capacity</li><li>▪ Proven Financial Capacity</li><li>▪ Disadvantage Business Enterprise</li><li>▪ American with Disabilities Act Compliance</li><li>▪ Title IV (Civil Rights) 48 U.S.C §5301 <i>et seq.</i></li></ul>	
<p>Non-compliance with federal laws and regulations or diversion of highway revenues may result in:</p> <ul style="list-style-type: none"><li>▪ <b>Suspension of funding</b></li><li>▪ Lack of maintenance and essential services that will cause <b>highways to deteriorate</b></li><li>▪ <b>Transportation of goods and emergency services will be hindered</b></li><li>▪ <b>HTA and FHWA are currently operating under an MOU which stipulated requirements to maintain funding – for additional information, see MOU slides in the Appendix.</b></li></ul>		<p>The default of HTA with any of its obligations (mainly bond debt) may trigger questions as to its financial capacity leading to <b>a potential loss of federal funds</b>. If, during the useful life of the property, the recipient unreasonably delayed or failed to use the federally assisted property for its originally intended purpose, recipients may be required to <b>return the entire amount of federal assistance spent on the award or federally-assisted property</b>. However, <b>this Fiscal Plan is designed to mitigate this risk</b> by closing any operational financial gap for the six-year period, subject to the realization of projected revenues, fiscal measures, and fund transfers from both Federal and PR Governments.</p>	
<p><b>\$138.8 million/year*</b></p>		<p><b>\$20 million/year*</b></p>	

1 Maximum available funding represents recurring annual payments and does not include emergency reconstruction grants. Maximum available funding may not equal that of obligated funds and/or actual expenditures. Amounts include penalties and \$3.8M return from PR Transit Safety Commission.

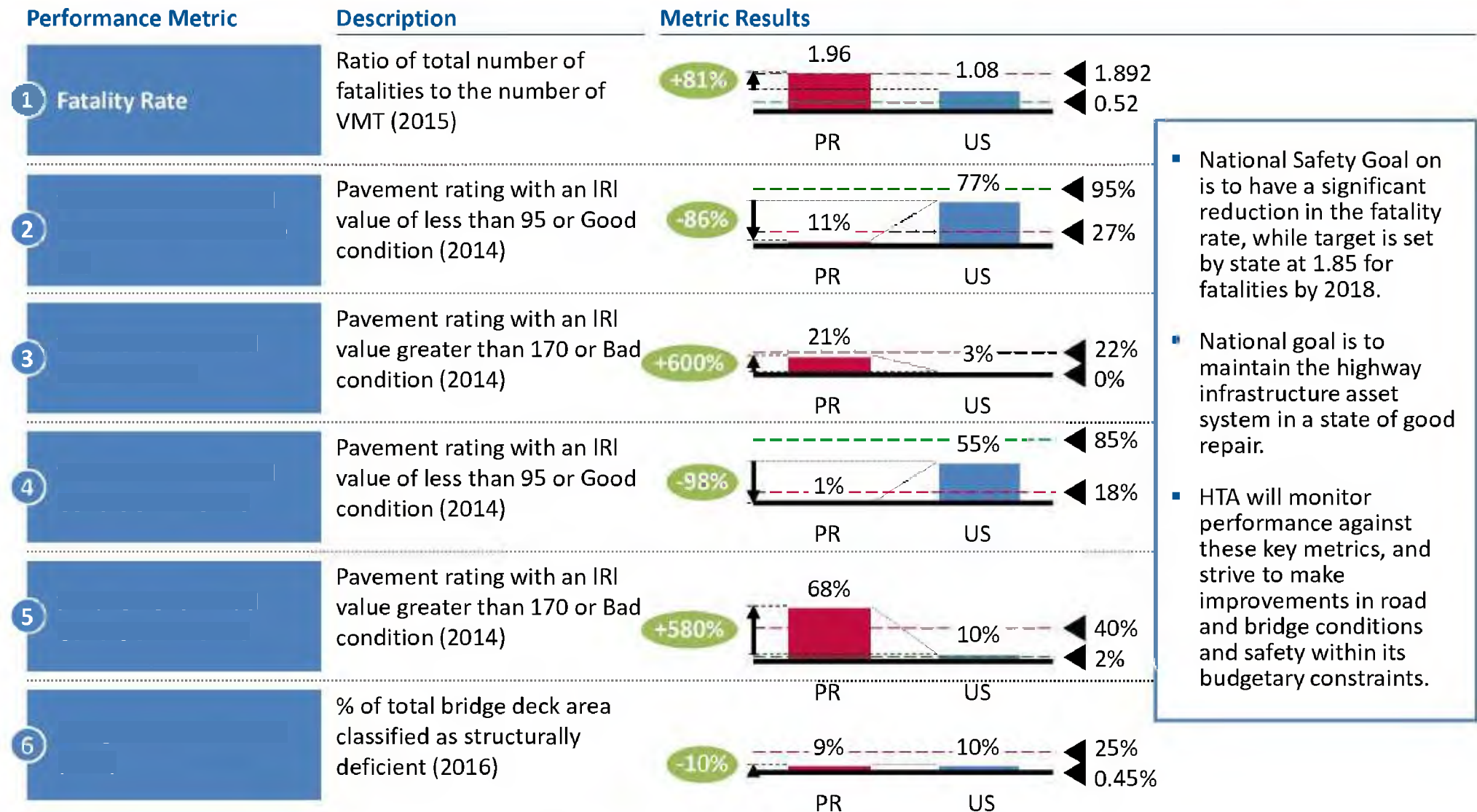
# HTA's current organization has a total head count of 1,283



Source: January 2018 HTA roster provided by HTA Human Resources.  
Relationships and offices via discussions with HTA executives and its consultants.



# Before Maria, Puerto Rico's road system was underperforming in nationwide Highways KPIs when compared to other states



SOURCE: <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812318>; <https://www.fhwa.dot.gov/bridge/nbi/no10/condition16.cfm>; <https://www.fars.nhtsa.dot.gov/Crashes/CrashesTime.aspx>; SHSP 2016

- **Infrastructure Damage:** Roads, bridges, were damaged in the hurricane, and major projects were delayed due to the temporary realignment of resources towards recovery. HTA was unable to execute planned capital improvements, focusing instead on emergency repairs to bring infrastructure back online.
- **Public Transit Damage:** Several Tren Urbano (TU) stations were damaged by Maria, with limited service returning in late December.
- **Revenue:** Revenue from operations were severely depleted in the wake of Hurricane Maria. Toll plazas were damaged or left without power, TU and several bus lines were left temporarily inoperable, and both traffic and ridership were greatly reduced.
- **Economy:** Hurricanes contributed to greater-than-anticipated economic decline, leading to a long-term reduction in revenue, traffic, and ridership.
- **Insurance and aid:** FEMA grants and insurance proceeds are expected to partially finance some capital improvement projects necessitated by Maria's damage, and offset some of the negative economic impact of the storm.



# Hurricane Maria caused an estimated \$114M in damages to HTA's non-highway assets, almost all covered by ER funds and insurance

- HTA's direct loss assessment to-date indicate that Maria caused \$71M in damages, excluding damage to the highway network.
- At the time received, the assessment (shown to the right) was only complete for 62% of assessed categories.
- Assuming a linear distribution, HTA estimates total costs in the fiscal plan to be \$114M. Additional loss estimates are likely.
- HTA estimates that the vast majority of the direct costs, or \$108M, will be covered by emergency funds and insurance payments, with a local funding need of \$6M. HTA will meet the local share of all additional federal funding it receives.
- Some indirect costs, including lost revenues may not be covered

PW Assistance Project - PW Listing  
PR Highway and Transportation Authority (PRHTA)

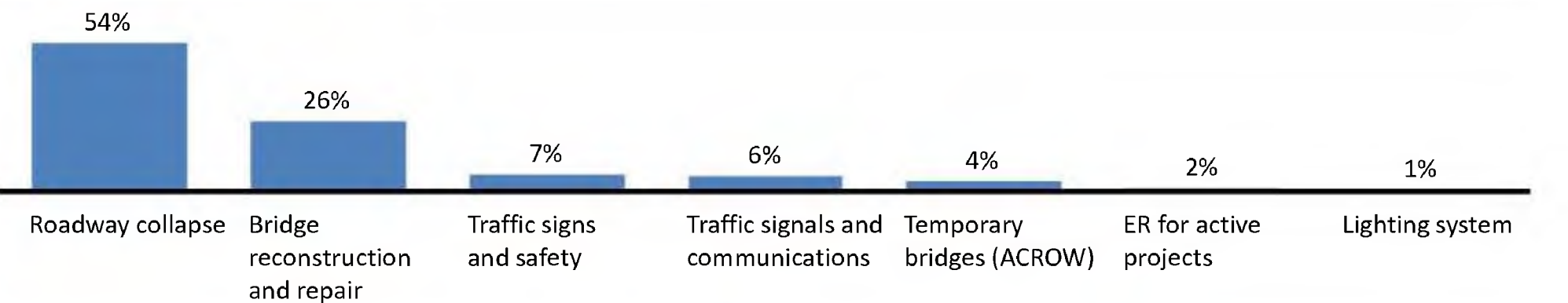
Force Account Labor and Equipment	Force Labor Account Payroll	184,111
	<b>Total</b>	<b>184,111</b>
Emergency Protective Measures	First Transit Buses for Military Personnel	44,686
	First Transit Buses use during Emergency	29,236
	Security Protection for Toll System Facilities	21,392
	Health & Safety Inspections Facilities	3,500
	Provision of Foods, Water and Other Essential Items to COE (Central Operacional de Emergencia )	20,287
	First Transit Security Protection	63,000
	Direct Administrator Cost	17,078
	Temporary Generators Facilities Rental (including Maintenance and Diesel)	346,691
	Vehicle Rentals, Equipment, Parts	213,829
	<b>Total</b>	<b>759,699</b>
Emergency Road Repairs	Emergency Road Repairs	1,800
	<b>Total</b>	<b>1,800</b>
Building and Equipment Damages	PRHTA Offices Damages and Repairs	1,508,049
	PRHTA - Toll System Equipment Damages and Repairs	97,191
	PRHTA- 2% Mapfre Insurance Deductible	958,687
	PRHTA Vehicles Damages and Repairs	18,311
	First Transit Bus Damages	16,142
	<b>Total</b>	<b>2,598,380</b>
Debris, Emergency Protective Measures & Building and Equipment Damages	Debris, Emergency Protective Measures & Building and Equipment Damages	67,668,704
	<b>Total</b>	<b>67,668,704</b>

Preliminary Damage Estimates. Subject to Change / Finalization

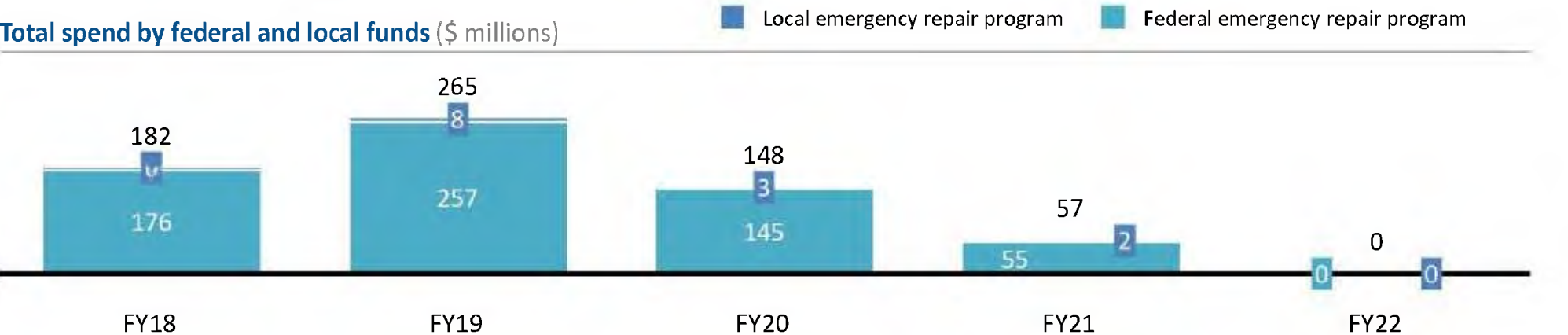
# Damage to the Highway network was estimated at \$652M, with federal funding covering 97% of losses

Puerto Rico's highway system suffered significant damages following Hurricane Maria. As of February 19, HTA estimated that repairs would cost a total of **\$652M**. Of this total, **\$20M** is projected to come from local funds assuming a 100% federal match for all FHWA expenses<sup>1</sup> and some local spending for design management and a share of FEMA expenses. Over half of the total spend will go towards repairing collapsed roads, with another 26% going towards bridge repair and reconstruction.

Percent of budgeted repair cost by category



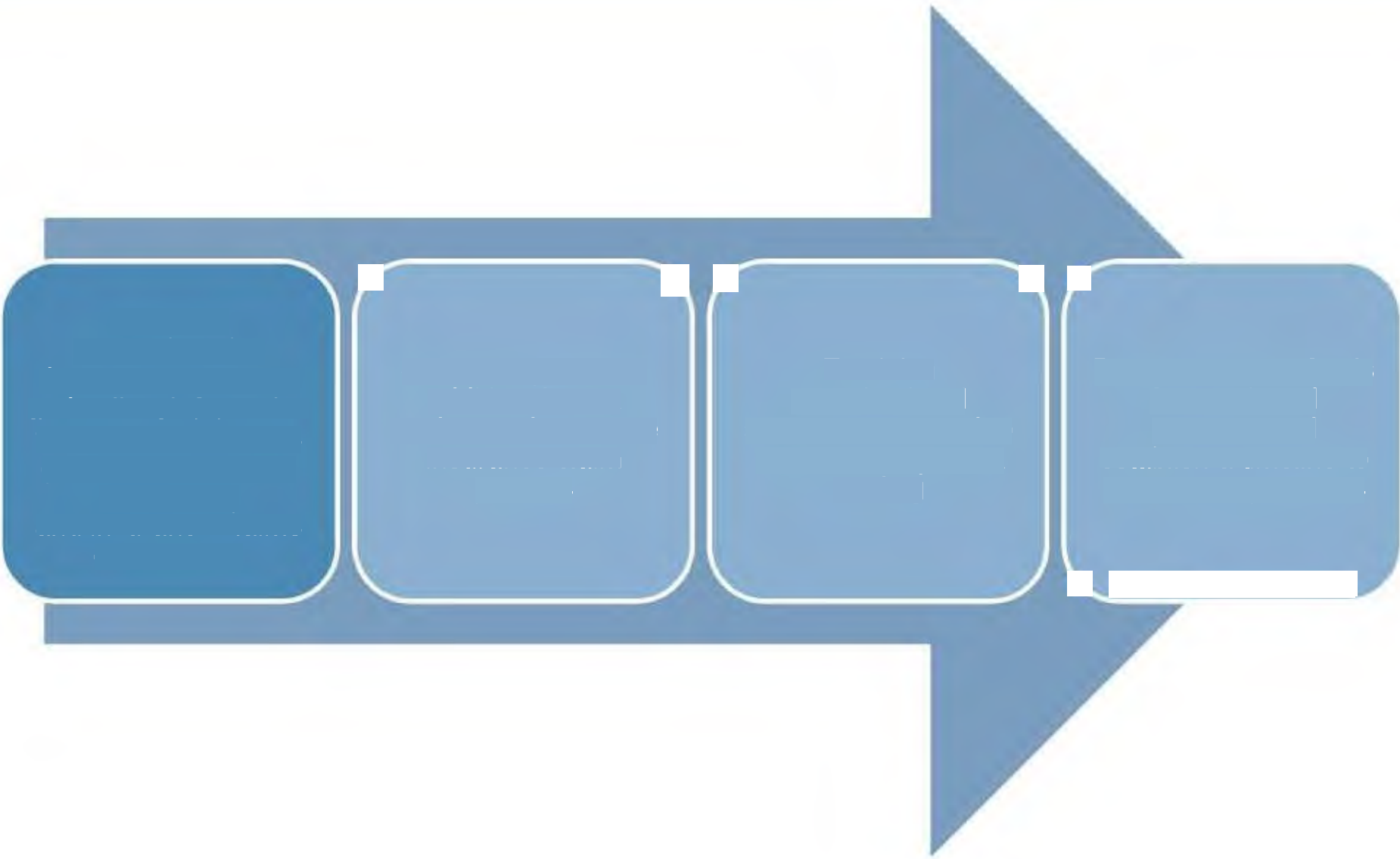
Total spend by federal and local funds (\$ millions)



1 Bipartisan Budget Act of 2018, 115th Cong., 2d Sess. (2018). Page. 88; line 8.



# Next Steps for Hurricane Recovery



### **III. INFRASTRUCTURE AGENDA**

HTA has established an infrastructure agenda to improve the condition and performance of its assets to improve economic growth, and maximize federal funds obligated from FHWA<sup>1</sup> and FTA<sup>1</sup> to enable it to meet its goals. Puerto Rico has a six-year Capital Improvement Plan (CIP). The six-year CIP is comprised of the 2017-2020 Statewide Transportation Improvement Plan (STIP) which are planned projects, active projects not included in the STIP, and projections beyond the STIP to maintain the system in a state of good repair.

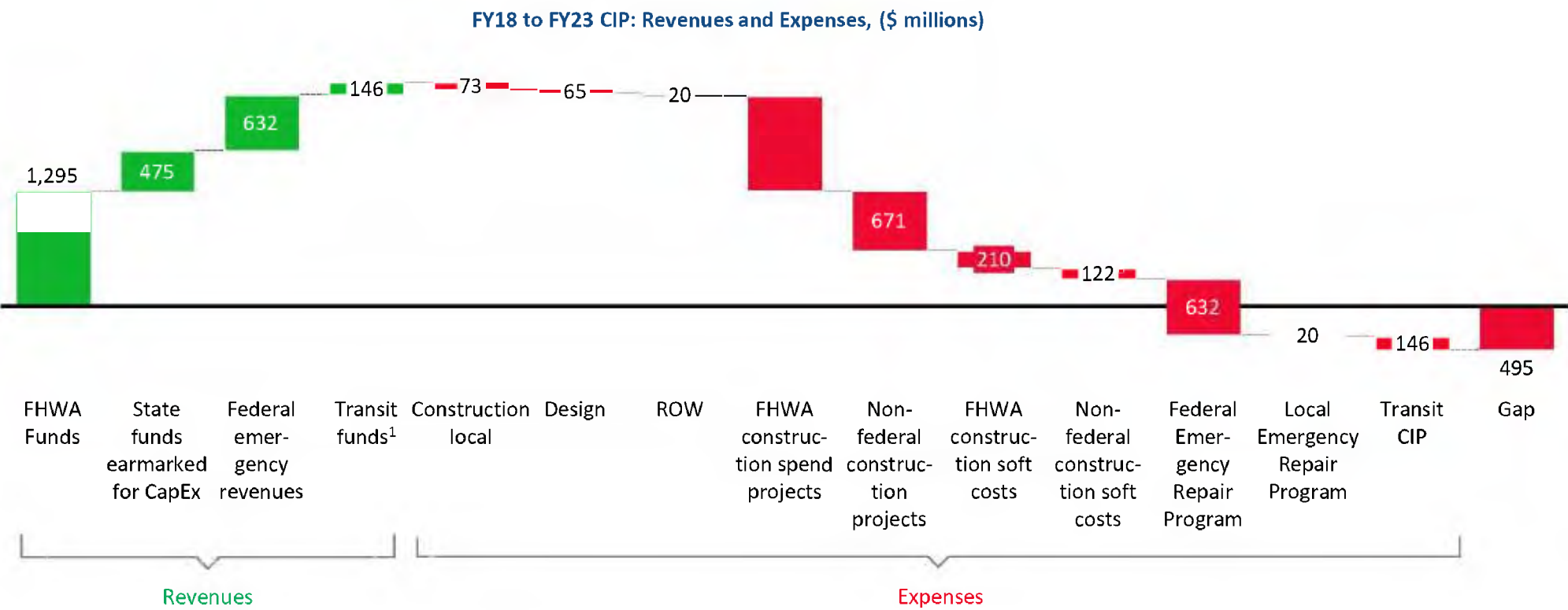
Strategy	Focus	Funds	Projects and execution
<ul style="list-style-type: none"> <li>Focus CIP on maintaining the existing highways asset in an adequate operating condition</li> <li>Continue aggressive plan to maximize funds and develop best-in-class infrastructure</li> <li>Expedite project delivery: <ul style="list-style-type: none"> <li>Engage expedited design services to accelerate preliminary designs and obligate funds</li> <li>Increase project supervision through additional qualified resources</li> </ul> </li> <li>Utilize P3's and outsourcing as strategies to achieve a more efficient and modern infrastructure, in accordance with Puerto Rico's government public policies</li> </ul>	<p>Planned projects for the next six years will mainly focus on:</p> <ul style="list-style-type: none"> <li>Highway Safety Projects</li> <li>Improvement of existing transportation infrastructure, including: pavement reconstruction and preservation; bridge repairs and preservation; and the upgrade of traffic signals.</li> <li>Congestion Mitigation</li> <li>For the Transit Asset, the CIP will focus on the replacement and upgrades of buses and the TU train system</li> </ul>	<ul style="list-style-type: none"> <li>Obligate as much Federal Funds as possible to support economic growth</li> <li>Current federal match is 80.25% of project costs for eligible projects, with the state matching 19.75% (exception: 100% for emergency relief).</li> <li>Currently, HTA uses toll credits to cover the spend requirements of the state match.</li> <li>Transfers agreed upon in CW plan to fund projects beyond federal funds</li> </ul>	<ul style="list-style-type: none"> <li>The current CIP has been developed to maximize the deployment of already-assigned federal funding on existing projects and optimize the use of future funding by prioritizing infrastructure needs in order to keep the road network in a safe operating condition.</li> <li>As part of a Memorandum of Understanding (MOU) between the HTA and the FHWA, HTA is undergoing a transformation geared at revamping its project and program delivery capabilities to eliminate its project backlog. HTA feels confident that it will be able to deliver the described CIP in this fiscal plan, once this transformation is completed.</li> <li>HTA has included in the fiscal plan a CIP for the Transit Assets at \$5M per year, previously allocated on PRITA's budget, to ensure availability of funds to overhaul any bus units and train system components in disrepair.</li> </ul>

<sup>1</sup> Total available FTA & FHWA funding may not equal that of obligated funds and/or actual expenditures

In order to maintain its assets in a state of good repair, comply with federal requirements, and invest in critical economic development projects, HTA estimates that it will need **\$3.0B** of capital expenditures (not including capex optimization measures), from FY18 to FY23, of which:

- \$2.25B is for HTA’s Highway-related Capital Improvement Plan
- \$652M is for Hurricane Maria-related emergency repair expenditures to occur over the next four years
- \$146M is for HTA’s Transit-related Capital Improvement Plan

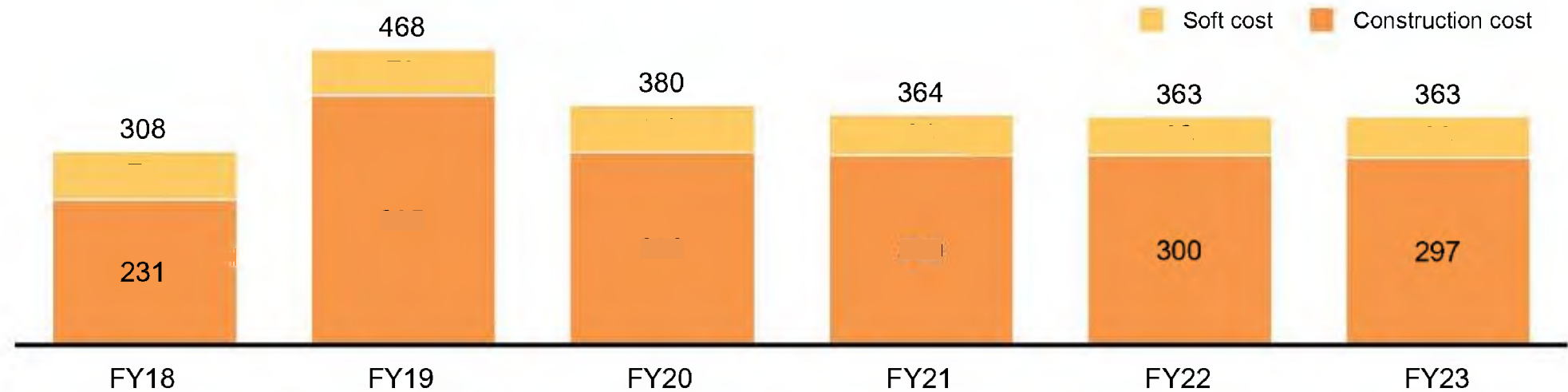
During the six-year period, HTA’s CIP expenses exceed capital revenues by **\$495M**. This gap will need to be funded by operating revenues or allocations from Central Government.



1 Excludes FTA grant of \$121M over FY18-23, which is dedicated to operating expenditures



HTA has prioritized its CIP around four main objectives, 1) eliminate its federal backlog in the next 4 years, 2) maintain the national highway system (NHS) and interstate system in a state of good repair compliant with federal standards, 3) make critical investments in strategic projects to reduce congestion and drive economic growth, and 4) provide minimal intervention state of good repair spend to the non-NHS roads.



Main Assumptions:

Construction Assumptions:

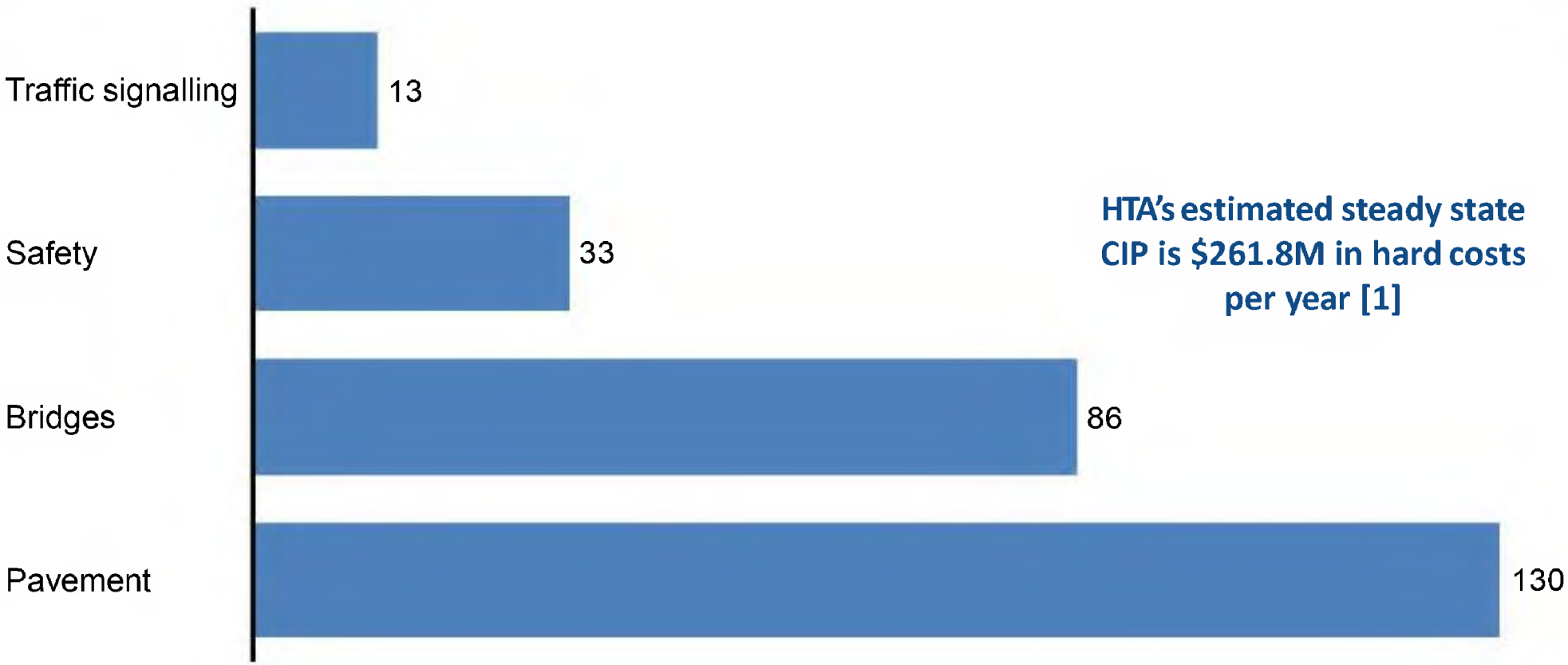
- Federal and local Capital expenses for FY18-FY21 were developed using project-specific costs provided by HTA for active projects, STIP projects (State Transportation Improvement Program), federal projects, and projected expenditures on dynamic toll lanes.
- FY22-23 estimates were developed using CIP projections (**\$261.8M per year**) produced by HTA and its consultants, and projects the total spending needed per year to keep the highway network in a state of good repair.

Soft-Cost Assumptions:

- Includes \$65 M in soft cost backlog. Assumes 10% of Capital expenses for 2018 and 2019, 15% for 2020 and 2021, and 18.5% of Capital expenses for Years 2022 to 2023. Soft cost assumptions by year were provided by HTA and its engineering consultants.

[1] Some of FY21's total construction spend was also developed with inputs from the CIP  
\* Includes both construction and soft costs but does NOT include CIP for Transit Asset

Steady State Expenses By Type of Work (\$ in millions)

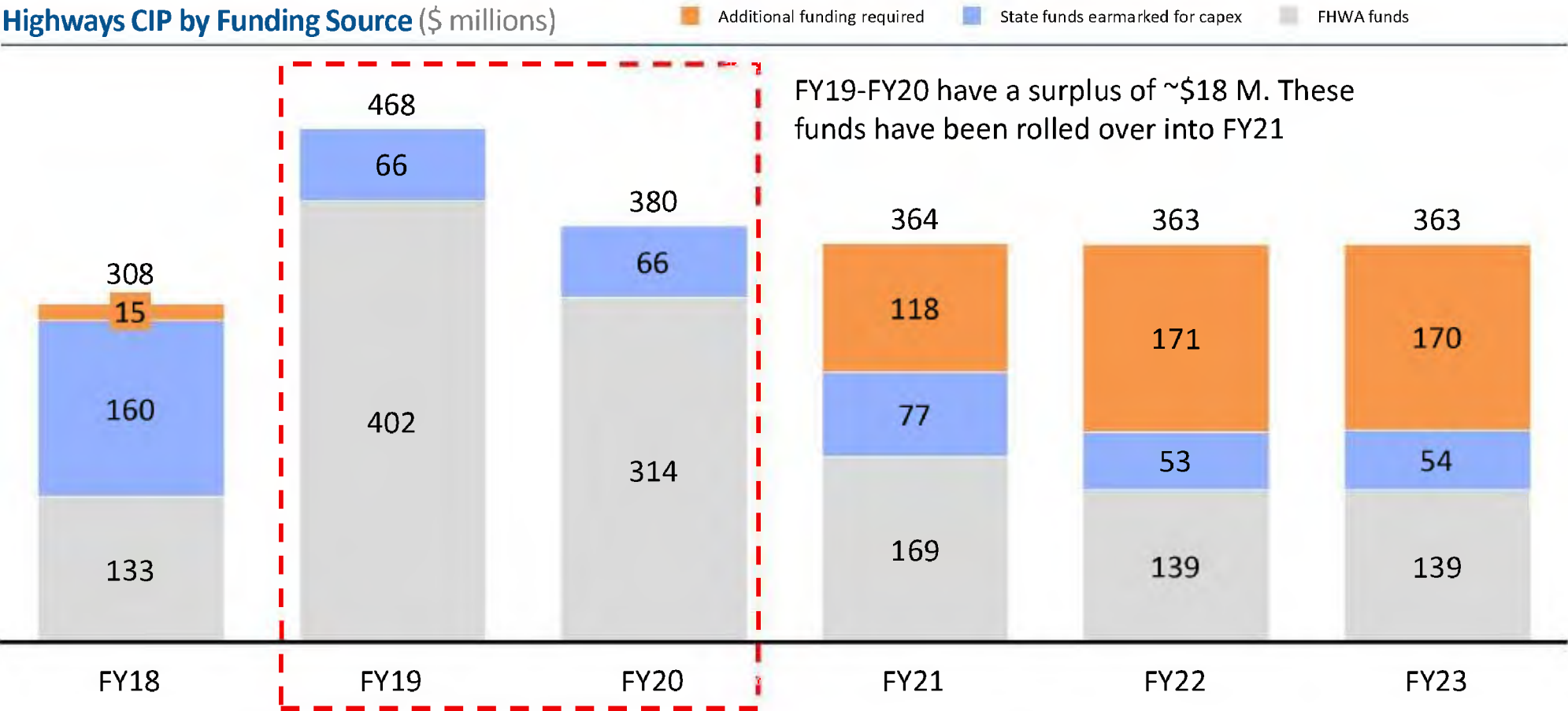


[1] HTA developed a long-term, steady-state CIP for its highway infrastructure it believes it needs to keep the highway system in a state of good repair and critical to HTA receiving full federal funds. To develop these funding levels, HTA used available data on asset condition, lifecycle, and historical costs. Following its initial analysis, HTA hired an outside engineering consultant to conduct a validation the CIP. After integrating the results of the external study, PRHTA estimates a steady-state CIP of \$261.8M per year.

\* Includes both construction and soft costs and does NOT include CIP for Transit Asset

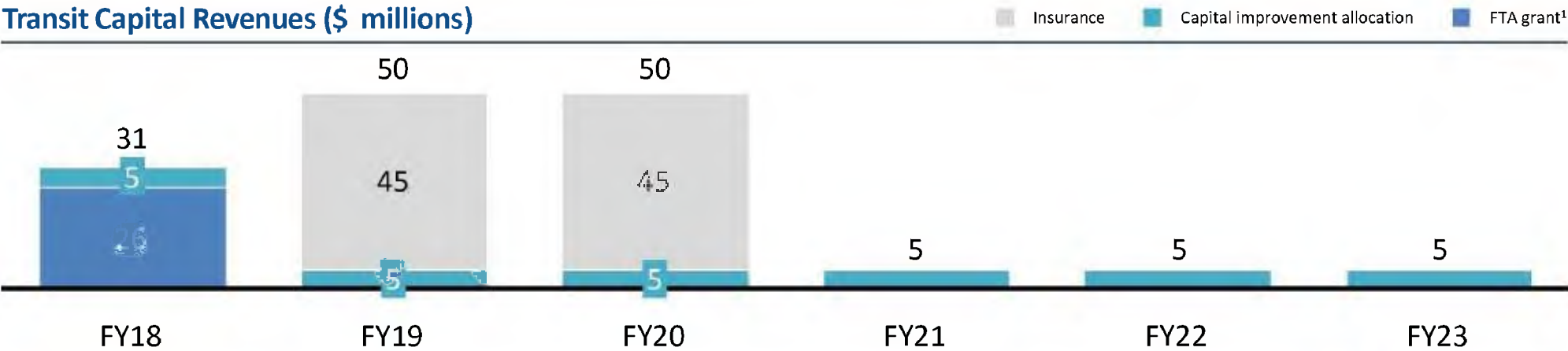
# Highways Asset Baseline CIP\* for Fiscal Plan Period by Sources of Funds

HTA has developed its Highways CIP with the goal of maintaining the highway network in a state of good repair at an expected cost of \$2,245 M. HTA has identified **\$1,769M** over the six-year period in capital funding. In order to implement its non-Emergency Repair CIP, **\$476M** in additional funding will be required from operations, fiscal measures, or appropriations from the Central Government.

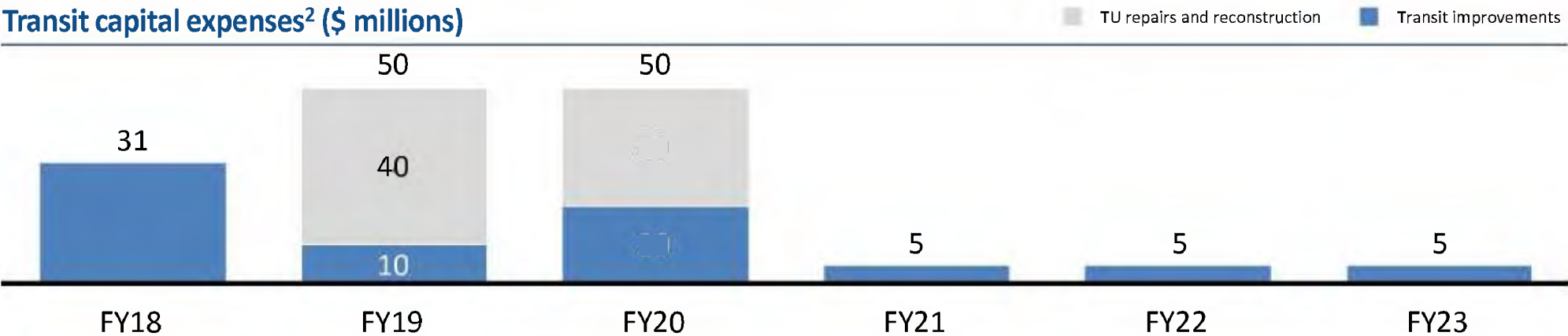


\*Includes both construction and soft costs and does NOT include CIP for Transit Asset  
\*\* Allocation for the PRHTA for infrastructure improvements from the FY 2018 Central Govt Budget

Transit Capital Revenues (\$ millions)



Transit capital expenses² (\$ millions)



**Main Assumptions:**  
Transit CIP – Overhaul of Bus and Train System Units, as needed.

1 Excludes \$121M of FTA grants over FY18-23, which is dedicated to operating expenditures  
Note that the annual \$5 million is currently allocated for CapEx on PRITA’s budget.  
\*Includes both construction and soft costs



- These priority projects are aligned with HTA’s strategic goals to promote economic development and reduce congestion.
- The Projects emphasize include of existing toll roads, and dynamic toll lanes/flyovers which would include new revenue to enhance private sector participation through Participative P3’s.
- HTA is currently exploring executing these projects under a P3 model. Preliminary studies suggest that gap funding will be required for these projects. Further study will be needed to determinewhich project will be pursued, but HTA will prioritize the project with the highest socioeconomic benefit to Puerto Rico.
- As part of this process, HTA will work to identify additional funding will allow HTA to provide adequate gap financing and facilitate the development of P3’s
- Currently, funding for dynamic toll viaducts is included in HTA’s fiscal plan. However, HTA will continue to explore using a P3 model on this project to make the best use of available funds.

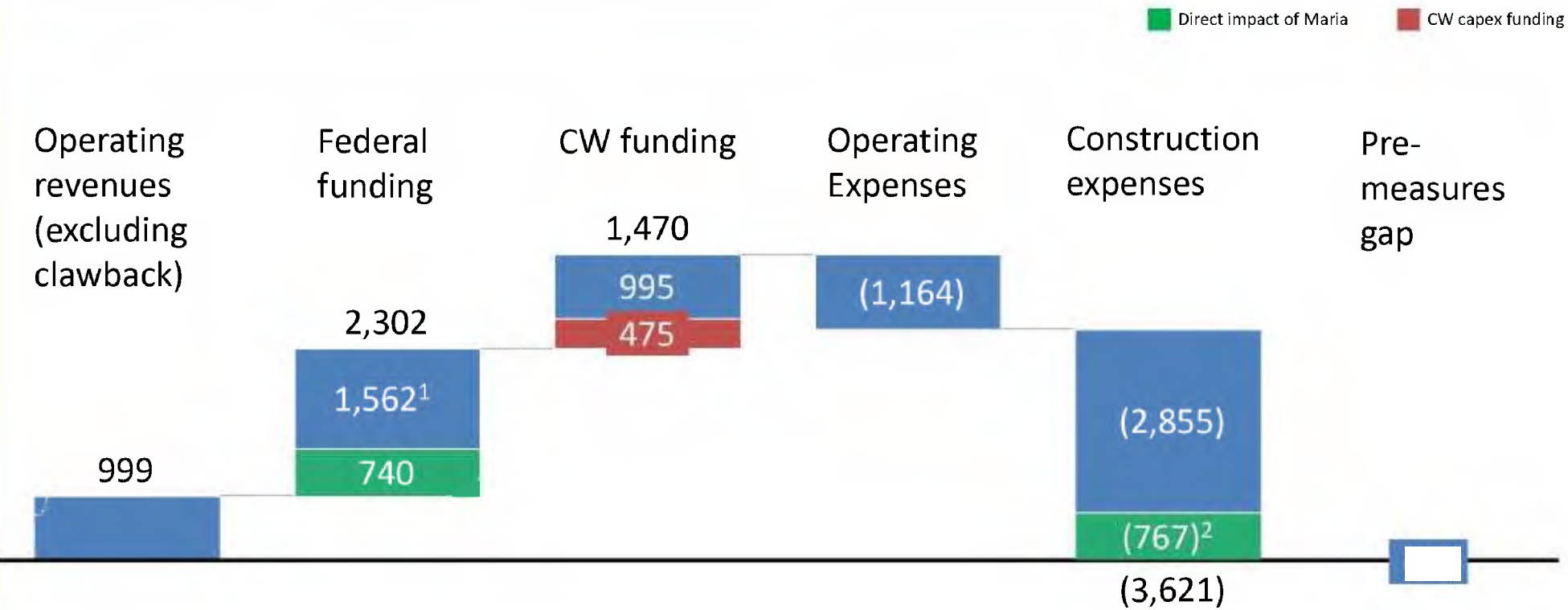
	Project Cost	Project revenue
1	\$200 MM	\$5 MM / year
2	\$170 MM	\$8 MM / year
3	\$249 MM – based on initial engineering estimates	\$1 MM / year

Note: Numbers revised as per Northwestern Corridor: Desirability and Convenience Final Report, April 2016. Source: STIP 2017-2020; HTA Management Assessment

## **IV. CURRENT SITUATION WITH BASELINE FINANCIAL PROJECTION**

# HTA's projected fiscal situation without fiscal measures: Summary

Total financial gap without fiscal measures, FY18-FY23 in \$millions



1 Includes \$90M of transit insurance claims, and \$121M of FTA grants  
2 Includes \$114M expenditures attributable to non-highway assets

\$ thousands	2017-18 P	2018-19 P	2019-20 P	2020-21 P	2021-22 P	2022-23 P	6 Yr Total: FY18-FY23
▪ Toll fares	116,968	124,140	125,448	127,119	129,022		753,520
▪ Gasoline Tax	131,070	139,107	140,572	142,445	144,577		844,366
▪ Diesel Tax	12,500	12,500	12,500	12,500	12,500		75,000
▪ Petroleum Products Tax	290,748	290,748	290,748	290,748		290,748	5
▪ Cigarettes tax	19,992	19,992	19,992	19,992	19,992	19,992	
▪ Motor Vehicle License Fee	28,296	29,658	29,775	29,734	29,741	29,710	
▪ Act 3 - Licenses Fees Transferred to Act	51,998	54,501	54,716	54,640	54,653	54,596	
▪ Transit Revenue	8,052	9,308	9,406	9,531	9,674	9,809	
▪ Electronic Toll Fines	27,177	25,265	25,531	25,871	26,258	26,625	
▪ Other incom	4,618	5,487	5,545	5,619	5,703	5,783	
Operating Revenue <sup>1</sup>	691,420	710,705	714,232	718,199	722,867	727,180	
▪ FHWA Funds <sup>2</sup>	132,766	401,926	313,922	168,768	138,830	138,830	
▪ State Funds Earmarked for CapE <sup>2</sup>	159,963	82,073	67,334	59,067	53,020	53,761	
▪ Federal Emergency Revenue <sup>2</sup>	175,553	256,565	145,201	55,135			
▪ Transit Fund <sup>2</sup>	51,857	70,000	70,000	25,000	25,000	25,000	
▪ Hurricane Loss Assessment - Insurance and FEMA Revenue	27,002	54,004	27,002	-			
Capital Contributio	547,140	864,568	623,458	307,971	216,850	217,591	
Total Revenues After Federal Fund Transfer	1,238,560	1,575,273	1,337,691	1,026,169	939,717	944,771	
▪ Right of Way <sup>2</sup>	(3,300)	(3,300)	(3,300)	(3,300)	(3,300)		(19,800)
▪ Design <sup>2</sup>	(23,000)	(7,769)	(10,716)	(7,882)	(7,882)		(65,132)
▪ Construction Local <sup>2</sup>	(23,160)	(10,000)	(10,000)	(10,000)	(10,000)		(73,160)
▪ Salaries and related benefits <sup>3</sup>	(46,807)	(46,511)	(46,273)	(46,063)	(45,839)		(277,179)
▪ PayGo Retirement Impact <sup>3</sup>	(13,536)	(13,327)	(13,327)	(13,327)	(13,327)		(80,173)
▪ Litigation Reserve <sup>3</sup>	(6,465)	(8,516)	(9,809)	(10,722)	(11,442)		(57,957)
▪ Right of Way Payments <sup>3</sup>	(16,626)	(13,736)	(7,068)	(1,900)			
▪ Other program expenses <sup>3</sup>	(1,471)	(1,474)	(1,477)	(1,481)	(1,484)		(8,875)
▪ FHWA Construction Spend Projects <sup>2</sup>	(96,242)	(347,242)	(260,540)	(143,610)	(120,009)		(1,084,799)
▪ Non-Federal Construction Projects <sup>2</sup>	(111,750)	(38,222)	(35,033)	(146,122)	(169,687)		(670,502)
▪ FHWA Construction Soft Costs <sup>2</sup>	(36,524)	(54,684)	(53,382)	(25,158)	(18,821)		(210,243)
▪ Non-Federal Construction Soft Costs <sup>2</sup>	(14,153)	(6,800)	(6,481)	(27,644)	(33,242)		(1)
▪ Federal Emergency Repair Program <sup>2</sup>	(175,553)	(256,565)	(145,201)				
▪ Local Emergency Repair Program <sup>2</sup>	(6,496)	(7,780)	(3,240)	(2,484)			
▪ Transit CIP <sup>2</sup>	(31,000)	(50,000)	(50,000)	(5,000)	(5,000)		(146,000)
▪ Hurricane Loss Assessment - Local Funding Needs	(1,552)	(3,104)	(1,552)	-			
▪ Hurricane Loss Assessment - Insurance / FEMA Covered	(27,002)	(54,004)	(27,002)	-			
Total Construction	(634,637)	(923,035)	(684,401)	(499,828)	(440,034)		(3,621,383)
▪ Salaries and related benefits <sup>3</sup>	(39,988)	(39,677)	(39,508)	(39,358)	(39,199)		(236,819)
▪ PayGo Retirement Impact <sup>3</sup>	(4,423)	(4,355)	(4,355)	(4,355)	(4,355)		(26,195)
▪ Toll highways administration and maintenance <sup>3</sup>	(37,189)	(46,641)	(38,591)	(39,416)	(40,280)		(243,103)
▪ Train operating and maintenance costs <sup>3</sup>	(65,527)	(67,262)	(67,003)	(69,084)	(68,794)		(408,934)
▪ Integrated transportation system <sup>3</sup>	(14,603)	(14,959)	(15,324)	(15,697)	(16,080)		(93,134)
▪ Other operating expenses <sup>3</sup>	(30,778)	(39,656)	(25,599)	(22,386)	(19,835)		(155,741)
Total operating expenses	(192,508)	(212,550)	(190,379)	(190,295)	(188,543)		(1,163,926)
Total expenses	(827,145)	(1,135,585)	(874,780)	(690,124)	(628,577)		(4,785,309)
Total Fin. Gap Pre-Measures before Rev Retention & Gov. Fundin	411,415	439,688	462,911	336,046	311,140	315,673	
Retained Revenues to Central Government	(534,603)	(546,505)	(548,303)	(550,059)	(552,211)		(3,285,822)
Total Fin. Gap Pre-Measures post-Rev Retention & pre-Gov. Fundin	(123,188)	(106,818)	(85,392)	(214,013)	(241,070)	(238,468)	
Transfer from Government of P	138,100	97,300	73,900	222,400	238,000	224,900	
Total Fin. Gap Pre-Measures after Rev Retention & Gov. Funding	14,912	(9,518)	(11,492)	8,387	(3,070)	(13,568)	(14,349)

Revenue \$ '000s

	FY18	FY19	FY20	FY21	FY22	FY23	FY18-FY23 Total	
Toll Revenue	116,968	124,140	125,448	127,119	129,022	130,823	753,520	[A]
Transit Revenue	8,052	9,308	9,406	9,531	9,674	9,809	55,779	[B]
Toll Fines	27,177	25,265	25,531	25,871	26,258	26,625	156,726	[C]
Other Income	4,618	5,487	5,545	5,619	5,703	5,783	32,756	[D]
Operating Revenue	156,816	164,200	165,929	168,140	170,656	173,039	998,781	
Gasoline Tax	131,070	139,107	140,572	142,445	144,577	146,595	844,366	[E]
Diesel Tax	12,500	12,500	12,500	12,500	12,500	12,500	75,000	[E]
Petroleum Products Tax	290,748	290,748	290,748	290,748	290,748	290,748	1,744,485	[F]
Cigarettes taxes	19,992	19,992	19,992	19,992	19,992	19,992	119,952	[G]
Motor Vehicle License Fees	28,296	29,658	29,775	29,734	29,741	29,710	176,915	[H]
Act 30 - Licenses Fees Transferred to Act	51,998	54,501	54,716	54,640	54,653	54,596	325,104	[H]
Tax and Fee Revenue	534,603	546,505	548,303	550,059	552,211	554,141	3,285,822	
Total Revenue	691,420	710,705	714,232	718,199	722,867	727,180	4,284,603	

A Toll revenues were estimated using FY17 actual toll revenues and then increased / decreased each year based on the Commonwealth's Real GNP projections as of February 2018. Toll fares consists of revenues derived from (i) Toll fares, (ii) Toll optimization, (iii) Viaduct and Dynamic Tolling Lane revenues.

B FY18 projected based on annualized Tren Urbano and Metro Bus actuals. FY19 is the average of FY17 and FY18; FY20 onward uses Real GNP projections as of April 2018.

C FY18 is the average between annualized FY18 YTD December and FY17 actuals. FY19 is the average of FY17 and FY18; FY20 onward uses Commonwealth's Real GNP projections as of Apr 2018

D FY18 projected based on annualized actuals. FY19 is the average of FY17 and FY18; FY20 onward uses Commonwealth's Real GNP projections as of April 2018

E FY18 based on FY17 projected forward using Puerto Rico real GNP. FY19 onwards grown at the Puerto Rico real GNP growth rate.

F FY18 applies a 10% year-over-year increase to monthly petroleum tax collections (volume-based) from FY17 for 2H FY18; AFI \* HTA distributions of these revenues split based on FY17 amounts. FY19 onwards projected to remain consistent with FY18 revenue

G FY18 forecast based on run-rate, excluding non-recurring revenues from extraordinary promotions; year-over-year growth in cigarette mainly driven by increase in tobacco taxes in May 2017 (Act 26-2017). FY19 onwards grown at PR population and inflation

H Considers FY17 actuals as a baseline for projections grown in line with PR population growth rate.



# Key Base Case Scenario Assumptions – Operating Revenue

## ■ Operating Revenue

- Toll revenues were estimated using FY17 actual toll revenues and then increased / decreased each year based on the Commonwealth's Real GNP projections as of February 2018.
  - The baseline does not include any plan to increase toll rates, (shown separately as a fiscal measure)
- Toll Fine Revenue is based on toll operations-related violations, which include a \$15 fine plus the cost of the unpaid toll transactions. FY18 was estimated at ~\$27million based on the average of the FY17 actuals and annualized FY18 YTD data (to account for post - Maria impact as well as expected return to steady state). For FY19 through FY23, this line item varies with Commonwealth's Real GNP assumptions as of March 2018. **These projections assume that HTA will receive both payments made to it directly as well as through Hacienda / Treasury, and that these pass-through receipts from Hacienda are not deducted from the central government's transfer to HTA.**
- Transit Revenues are composed of Tren Urbano and Metrobus income and are estimated at ~\$8million for FY18 based on the average of FY17 actuals and annualized FY18 YTD data. For FY19 through FY23, this line item varies with Commonwealth's Real GNP assumptions as of March 2018.
- Other Income for FY18 is estimated at \$4.6million, of which over 80% consists of income from rent and lease, Import Levy Tax fees and income improvements. For FY19 through FY23, this line item varies with Commonwealth's Real GNP assumptions as of March 2018.

# HTA's projected fiscal position, pre-measures: CIP snapshot

## Capital Expenses

\$millions	FY18	FY19	FY20	FY21	FY22	FY23	FY18-FY23 Total	
FHWA Funds	133	402	314	169	139	139	1,295	[A]
State Funds Earmarked for CapEx	160	82	67	59	53	54	475	[B]
Federal Emergency Revenues	176	257	145	55	-	-	632	[C]
Transit funds	31	50	50	5	5	5	146	[D]
<b>Total Revenues</b>	<b>499</b>	<b>791</b>	<b>576</b>	<b>288</b>	<b>197</b>	<b>198</b>	<b>2,549</b>	
Construction Local	(23)	(10)	(10)	(10)	(10)	(10)	(73)	[E]
Design	(23)	(8)	(11)	(8)	(8)	(8)	(65)	[F]
ROW	(3)	(3)	(3)	(3)	(3)	(3)	(20)	
FHWA Construction Spend Projects	(96)	(347)	(261)	(144)	(120)	(117)	(1,085)	[G]
Non-Federal Construction Projects	(112)	(38)	(35)	(146)	(170)	(170)	(671)	
FHWA Construction Soft Costs	(37)	(55)	(53)	(25)	(19)	(22)	(210)	[H]
Non-Federal Construction Soft Costs	(14)	(7)	(6)	(28)	(33)	(33)	(122)	
Federal Emergency Repair Program	(176)	(257)	(145)	(55)	-	-	(632)	[I]
Local Emergency Repair Program	(6)	(8)	(3)	(2)	-	-	(20)	
Transit CIP	(31)	(50)	(50)	(5)	(5)	(5)	(146)	[J]
<b>Total Expenses</b>	<b>(521)</b>	<b>(782)</b>	<b>(578)</b>	<b>(426)</b>	<b>(368)</b>	<b>(368)</b>	<b>(3,044)</b>	
<b>Net Capital Expenses</b>	<b>(22)</b>	<b>8</b>	<b>(1)</b>	<b>(138)</b>	<b>(171)</b>	<b>(170)</b>	<b>(495)</b>	

A PRHTA receives \$138.8M (net of penalties) in federal funds per year. FY18-21 is based on obligated Federal Funds and exceeds 138.8 M in some years as a result of backlogged projects. FY22 onwards assumes PRHTA receives its historical allocation from FHWA of \$138.8M.

B PRHTA receives an annual appropriation from the Commonwealth for capital expenses.

C Assumed that FHWA match of emergency repair spending was 100% per the Bipartisan Budget Act of 2018, 115th Cong., 2d Sess. (2018). Page. 88; line 8.

D Provided by PRHTA leadership. Excludes \$121M of FTA grants which are dedicated to operating expenditures

E Earmarked funding for annual local construction needs.

F Earmarked funding for annual design needs.

G Federal and local construction costs for FY18-21 were developed using project specific costs provided by PRHTA for active projects, STIP projects, Federal earmark projects, and projected spend on dynamic toll lanes. FY22-27 were developed using long-term CIP projections produced by PRHTA and its consultants and projects the total spend needed by year to keep the highway network in a state of good repair.

H Includes \$65M in soft cost backlog. Assumes 10% of construction costs for 2018 and 2019, 15% for 2020 and 2021, and 18.5% of construction costs for Years 2022 to 2027. Soft cost assumptions by year were provided by PRHTA and its engineering consultants.

I Developed using current damage estimates prepared as of February 19th, 2018. Local emergency repair costs include the local share of FEMA emergency repair and \$12M for local design management not eligible for FHWA reimbursement.

J Provided by PRHTA leadership.

# Key Base Case Scenario Assumptions – CIP (1 of 2)

## ■ Capital expenses

- Federal and local Capital expenses for FY18-21 were developed using project specific costs provided by PRHTA for active projects, STIP projects, Federal earmark projects, and additional locally funded projects.
  - A previously budgeted \$23M was allocated to the Construction Local line item.
- FY21-23 Capital expenses were developed using long-term CIP projections produced by PRHTA and its consultants and validated by an external engineering firm and projects the total spend needed by year to keep the highway network in a state of good repair.
  - FY21 is the first year where long-term CIP costs are incurred. Per PRHTA consultants, only 20% of steady-state FHWA long-term CIP costs can be incurred in the first year due to additional standard delay in obligating federal funds. The remaining portion of costs in this year are contributed from STIP-programmed and current active projects.
  - \$10M per year of the FY22+ non-federal spend has been allocated to the local construction line item as an earmark for annual needs.
- All years incorporate additional costs based on the long-term CIP projections to achieve adequate levels of state of good repair spending.

## ■ Soft Costs

- Includes \$65M in soft cost backlog. Assumes 10% of Capital expenses for 2018 and 2019, 15% for 2020 and 2021, and 18.5% of Capital expenses for Years 2022 to 2023. Soft cost assumptions by year were provided by PRHTA and its engineering consultants
  - A previously budgeted \$23M was allocated to the Construction Local line item.
  - For FY19 onwards, \$5M was deducted per year from the total soft cost and allocated to the design line item to ensure funding for annual needs.

## Key Base Case Scenario Assumptions – CIP (2 of 2)

### ■ Funding

- PRHTA receives \$138.8M (net of penalties) in federal funds per year. Total FHWA funds for FY18-21 is based on obligated Federal Funds and exceeds 138.8 M in some years as a result of backlogged projects. FY22 onwards assumes PRHTA receives its historical allocation from FHWA of \$138.8M.
- PRHTA had previously received a capex allocation from central government of \$75M which is currently allocated for FY18. PRHTA is also set to receive additional Capex funds of \$399M. This amount will fund emergency reconstruction as well as allow HTA to meet its capital requirements to maintain a state of good repair and fund additional strategic projects.

### ■ Emergency Repair

- Assumed that FHWA match of emergency repair spending was 100% per the Bipartisan Budget Act of 2018, 115th Cong., 2d Sess. (2018). Page. 88; line 8.
- Developed using current damage estimates prepared as of February 19th, 2018. Local emergency repair costs include the local share of FEMA emergency repair and 12 M for local design management not eligible for FHWA reimbursement

### ■ Transit CIP

- Developed on a line item basis by CIP leadership. Includes costs and revenues associated with reconstruction and repair following Hurricane Maria.
- Of the \$20million received from the FTA each year, \$5million has been allocated to the transit CIP in FY21 onwards whereas the remaining \$15million has been allocated to subsidize transit operating expenses.

# HTA's projected fiscal position pre-measures: Operating Expenses snapshot

## Operating Expenses

\$millions	FY18	FY19	FY20	FY21	FY22	FY23	FY18-FY23 Total	
Salaries and related benefits	(46.8)	(46.5)	(46.3)	(46.1)	(45.8)	(45.7)	(277.2)	[A]
PayGo Retirement Impact	(13.5)	(13.3)	(13.3)	(13.3)	(13.3)	(13.3)	(80.2)	[B]
Litigation Reserve	(6.5)	(8.5)	(9.8)	(10.7)	(11.4)	(11.0)	(58.0)	[C]
Right of Way Payments	(16.6)	(13.7)	(7.1)	(1.9)	-	-	(39.3)	[D]
Other program expenses	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)	(8.9)	[E]
<b>Subtotal, Construction Support</b>	<b>(84.9)</b>	<b>(83.6)</b>	<b>(78.0)</b>	<b>(73.5)</b>	<b>(72.1)</b>	<b>(71.5)</b>	<b>(463.5)</b>	
Salaries and related benefits	(40.0)	(39.7)	(39.5)	(39.4)	(39.2)	(39.1)	(236.8)	[F]
PayGo Retirement Impact	(4.4)	(4.4)	(4.4)	(4.4)	(4.4)	(4.4)	(26.2)	[G]
Toll highways administration and maint.	(37.2)	(46.6)	(38.6)	(39.4)	(40.3)	(41.0)	(243.1)	[H]
Train operating and maintenance costs	(65.5)	(67.3)	(67.0)	(69.1)	(68.8)	(71.3)	(408.9)	[I]
Integrated transportation system	(14.6)	(15.0)	(15.3)	(15.7)	(16.1)	(16.5)	(93.1)	[J]
Other operating expenses	(30.8)	(39.7)	(25.6)	(22.4)	(19.8)	(17.5)	(155.7)	[K]
<b>Subtotal, Operating Expenses</b>	<b>(192.5)</b>	<b>(212.5)</b>	<b>(190.4)</b>	<b>(190.3)</b>	<b>(188.5)</b>	<b>(189.7)</b>	<b>(1,163.9)</b>	
<b>Total</b>	<b>(277.4)</b>	<b>(296.1)</b>	<b>(268.3)</b>	<b>(263.8)</b>	<b>(260.6)</b>	<b>(261.2)</b>	<b>(1,627.4)</b>	

- A Salary: # of FY18 employees times their average salary. Assume salaries remain flat over period; Benefits: FY18: based on average of annualized FY18 YTD actuals through Dec 2017 and FY18 budget and is assumed to grow at 0.5% per year (FY16-FY18 CAGR). Other FY18 benefits based on share of salary and assumed flat over period. Law 70 and 211: Early Retirement based on by-person schedules
- B FY18: based on Department of Treasury's invoice; Assumed Milliman's actuarial estimates projected at \$36M / year as of FY19
- C Considers FY17 actuals as baseline and splits it into construction (93%) & non construction (7%). The construction component varies according to capital expenditure growth.
- D Based on a specific payment schedule for active cases - trails off as no expected new construction in near-term to drive ROW
- E FY18 vehicle lease and plotters: based on expected payments (\$585K) this fiscal year; all other (rent, security and others): assumed flat with FY17 actuals
- F Salary: # of FY18 employees times their average salary. Assume salaries remain flat over period; Benefits: FY18: based on average of annualized FY18 YTD actuals through Dec 2017 and FY18 budget and is assumed to grow at 0.5% per year (FY16-FY18 CAGR). Other FY18 benefits based on share of salary and assumed flat over period. Law 70 and 211: Early Retirement based on by-person schedules
- G FY18: based on Department of Treasury's invoice; no additional information available, assumed flat during period
- H FY18 Toll Operator (GILA) estimates based on the 12 months pre-Hurricane (Sep 2016 to Aug 2017); split 40% fixed and 60% variable - variable based on expected traffic volume. Both costs escalated at 2% / year. Vehicles and maintenance based on expected traffic; insurance based on specific post-Hurricane Maria estimates (if not other hurricanes, insurance will regress to pre-Maria levels starting in FY23); all other variables constant with FY17 actuals
- I Tren Urbano operating contract (\$53mm in FY18) based on contract requirements and projected hour and mile rates (about 1% increase per year); insurance based on specific post-Hurricane Maria estimates; all other variables (lighting, etc.) assumed constant with FY17 actuals
- J Bus operating estimates based on recent contract trends (2.4% per year) extended for all years of period
- K Professional Services, which includes FOMB consulting providers (represents 60% of all providers) is expected to decrease during the period. All other variables (rent, lighting, etc.) assumed constant with FY17 actuals



## ▪ Salaries and related benefits

- Salaries and related benefits consider the latest HTA roster, and each employee's costs at the average current salary. Additional benefits such as overtime, pension, social security and Medicare are calculated as a proportion of the base salary. HTA has not increased salaries in the last nine years, so we assumed no increase over this period. HTA is self-insured, and over the last two years has experienced a 0.5% CAGR in health care costs, which we assumed will extend for the remaining fiscal years.
- Law 70 Early Retirement Program went into effect prior to HTA's fiscal plan period, and its costs are based on the known payout schedule for the program's participants. As expected, the program costs trails off as participants age and are removed from the program. For this reason, Law 70 impact is included in the baseline.
- Law 211 Early Retirement Program went into effect at the beginning of FY18, and our baseline considers participants at their then-current costs at the time of their 6/30/17 separation (note: savings from this Law is captured and represented as a fiscal measure).

## ▪ PayGo Retirement

- HTA received an invoice from the Puerto Rico Treasury Department for \$34million related to FY18, the first year when PayGo went into effect. Forecasts from FY19 through FY23 are projected at \$33 million per year per revised estimates provided by ASR.

## ▪ Litigation Reserve

- HTA considered litigation case-by-case breakdown for FY17 and split between construction and non-construction. Non-construction component (7%) assumed constant while construction component (93%) reflects variation in capital expenditure.

## ▪ Right of Way Payments

- HTA built a by-case projection based on specific litigation cases and their expected payments. These expenses are expected to gradually decrease until reaching zero by FY22, as HTA's new construction activity reduces.

# Key Base Case Scenario Assumptions – Operational Expenses (2 of 3)

## ■ Other program expenses

- Consists of additional expense related to construction support. Equipment rental is the largest item within this category and is due primarily to car leases to support transportation within construction sites. This item is expected to increase to support increased construction activity in the next few years. Other remaining expenses such as building rent and security considers FY17 actuals and is expected to remain flat.

## ■ Toll highways administration and maintenance

- Electronic toll collection, the cost of HTA's toll operator third-party service provider, has been split into variable (costs driven by traffic volume) and fixed (fixed costs). To get a good steady state estimate, FY18 considers the last twelve months prior to Hurricane Maria (Sep 2017 to Aug 2018); for future years, this line item varies based on real GNP plus a small per year contractor cost escalation.
- Highway Repair and maintenance, which supports HTA's highways, consists of several components (e.g. green area contracts; re-pavement) that total \$10million per year for FY18 and FY19. As of FY20 this line item includes a small per year contractor cost escalation.
- Vehicle maintenance and repair, which supports HTA's highway operations, assumes FY18 is consistent with FY17, and future years include small per year contractor cost escalation.
- Insurance and maintenance, for HTA's highways operations, considers actual insurance policy costs for years FY18 and FY19. Insurance costs are estimated to remain steady until FY22 and then gradually decline back to FY18 levels (assuming no Maria-like events will recur).
- All other line items such as lighting, security, rent, etc. use FY17 actuals for projections for each year through FY23.

## ■ Train operating and maintenance costs

- Tren Urbano's operating contract represents approx. 80% of this line item. Between FY18 and FY23, projections have been made on a detailed, per-year estimate consisting of the FY18 to FY23 contracted base compensation, price / mile, price per hour, estimated miles, estimated hours and an annual allowance in order to reach the total expected contract costs. CAGR is approx. 1% over the six years.
- Insurance and maintenance, for Tren Urbano operations, considers actual insurance policies for years FY18 and FY19. Insurance costs are estimated to remain steady until FY22 and then gradually decline back to FY18 levels.
- All other line items such as lighting, security, rent, etc. use FY17 actuals for projections for each year through FY23.

## Key Base Case Scenario Assumptions – Operational Expenses (3 of 3)

### ■ Integrated transportation system

- The bus system that flows into Tren Urbano is operated by a third-party provider and the budget information is based off on the existing operating contract. Based on the contract pricing, a CAGR of approximately 2% is expected through FY23.

### ■ Other operating expenses

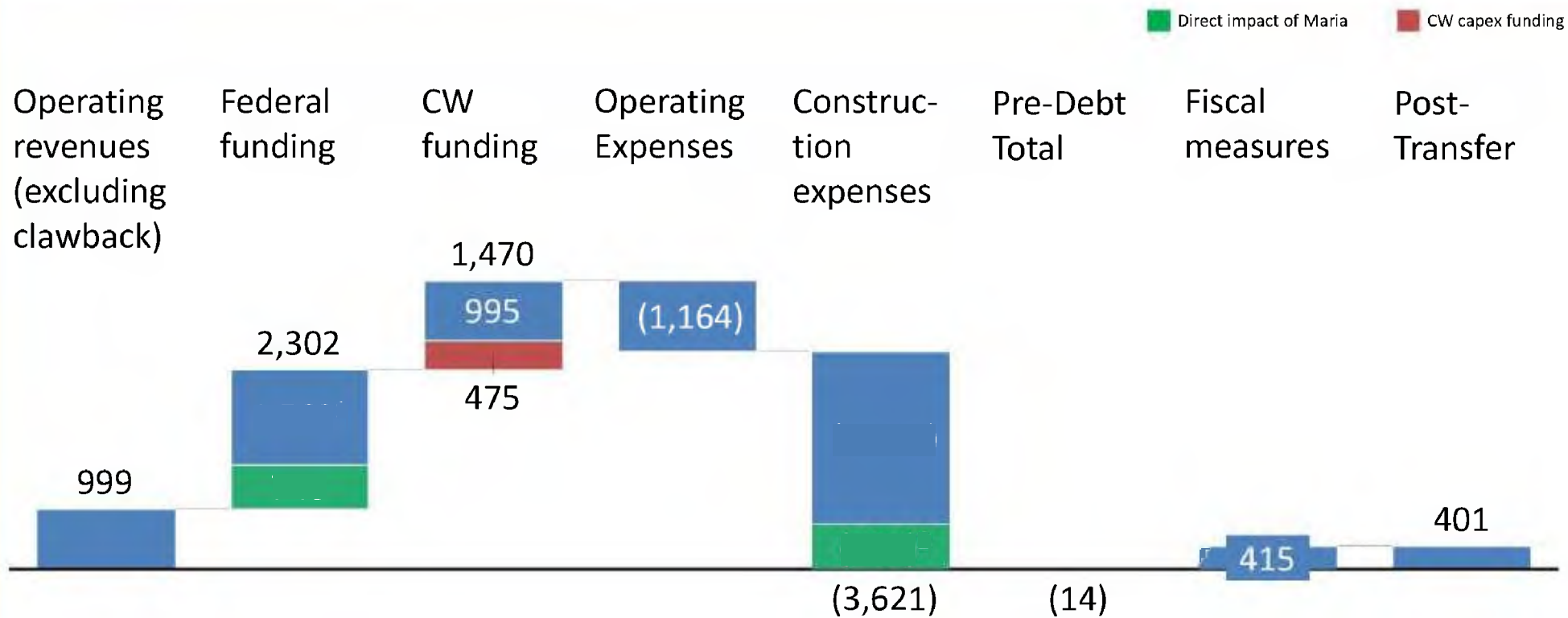
- Professional services represent approximately 70% of this line item. Professional services includes FOMB support, which is approximately 60% of this subtotal. In addition, services includes Title III consulting, accounting, law and financial services consulting. Professional services is expected to gradually decline over the years from approximately \$24 million in FY18 to approximately \$10 million in FY23, mostly related to a decline in FOMB services and Title III support.
- Insurance and maintenance regarding operating and overhead, considers actual insurance policies for years FY18 and FY19. Insurance costs are estimated to remain steady until FY22 and then gradually decline back to FY18 levels.
- All other line items such as lighting, security, rent, etc. use FY17 actuals for projections for each year through FY23.

## IV. FISCAL MEASURES WITH FINANCIAL PROJECTIONS<sup>1</sup>

1. Although the FOMB does not consider and has not considered anything in the Revised HTA Fiscal Plan as a “recommendation” pursuant to Section 205(a), to the extent that the Government of Puerto Rico or HTA considers or has considered anything in this Chapter a “recommendation” pursuant to Section 205(a), the FOMB hereby incorporates it into the Revised HTA Fiscal Plan pursuant to Section 201(b)(1)(K).

# HTA's projected fiscal situation with fiscal measures: Summary

Total financial gap with fiscal measures, FY18-FY23 in \$millions



1 Includes \$90M of transit insurance claims, and \$121M of FTA grants  
2 Includes \$114M expenditures attributable to non-highway assets



# Fiscal Plan Measures - Summary

Fiscal measure	Description	Fiscal impact \$M		
		6 years (FY18-23)	Average/ year	Final year (FY23)
1 Enhance board composition	Establish an independent board of administration leaders and independent industry experts	2.5	(0.4)	(0.5)
2 Rollout organizational KPIs	Increase transparency around customer welfare, financial discipline and operational execution through performance measurement and tracking			
3 Increase tolls on existing roads	Increase rates on existing roads only with a tiered CPI catch up	77.4	12.9	22.5
4 Increase discretionary funds	Secure share of discretionary federal and recovery grants to offset CIP and strategic project expenditures	52.1	8.7	14.9
5 Toll optimization	Improve toll capture through ORTs	14.7	2.4	6.4
6 Capture ancillary revenue	Increase revenue from non-toll, non-transfer sources including but not limited to advertisement revenues, real estate dispositions and service signs	10.9	1.8	3.1
7 Optimize CIP	Improved prioritization based on outcomes and project delivery to complete capital portfolio with a more efficient resource envelope		19.3	26.3
8 Rightsizing	Workforce transition to reduce total labor expense (payroll, benefits, and outsourcing) in line with Commonwealth wide efficient objective	56.7	9.4	19.5
9 Pensions	Reduce pension contributions by 10% in line with Commonwealth wide target	13.2	2.2	3.3
10 Xmas bonus	Elimination of Christmas bonus in line with the Commonwealth Fiscal plan	2.6	0.4	0.4
11 Contract re-bid	Secure better rates for contracts	39.1	6.5	14.6
12 Early exits	Executed retirement incentivization for 162 personnel and an early termination incentive program for 14 more	26.7	4.5	7.2
13 Traffic reduction	Create BRT route from Caguas – Centro Medico, servicing ~1K people daily, build 7 viaducts and 1 tunnel, and implement DTLs to reduce congestion	13.1	2.2	5.6
14 Concessions	Evaluate concession opportunity for PR-52 and other roads	5.0	(0.8)	
Total			69.2	123.4

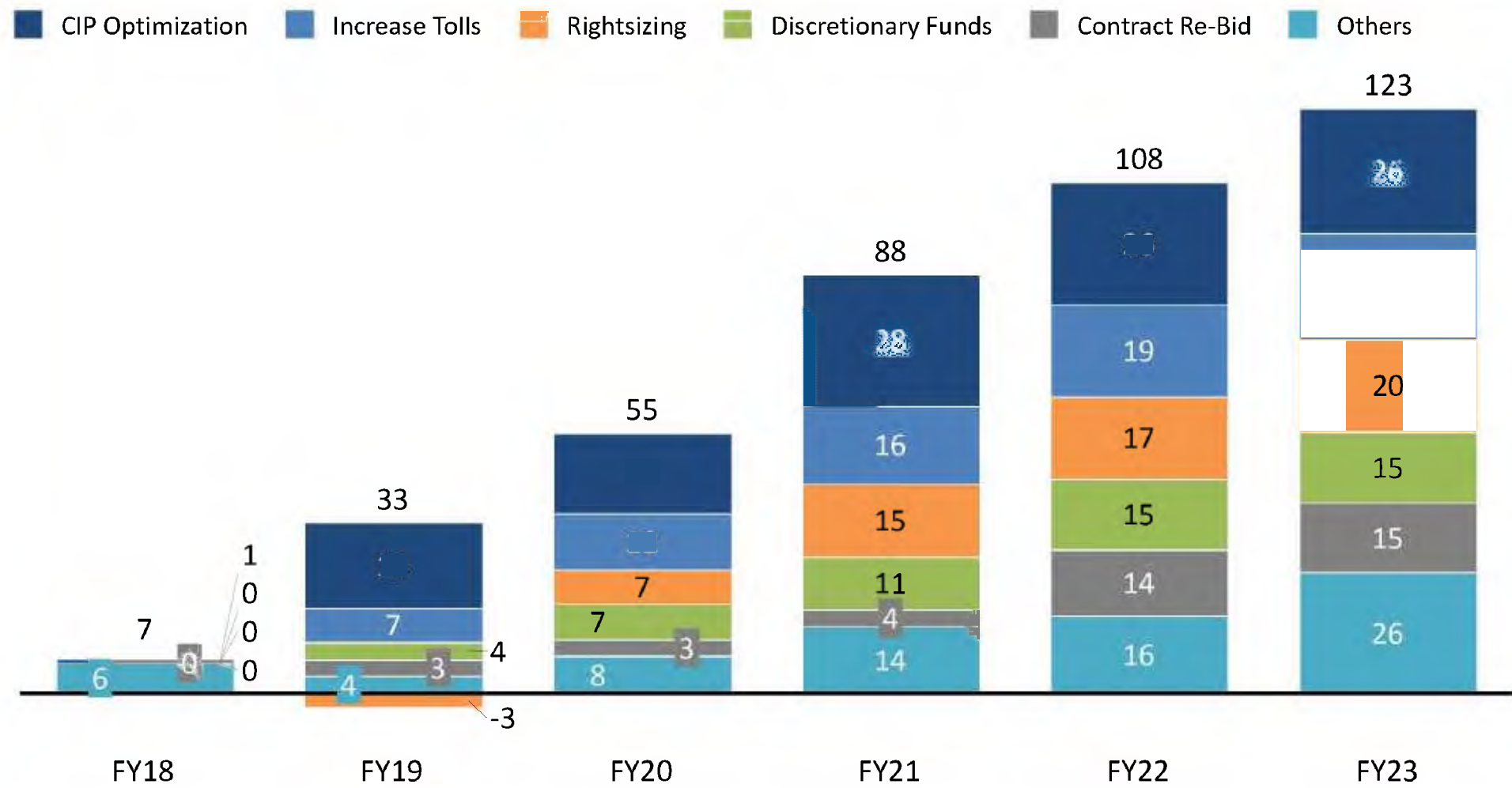
11. Although the FOMB does not consider and has not considered anything in the Revised UPR Fiscal Plan as a “recommendation” pursuant to Section 205(a), to the extent that the Government of Puerto Rico or UPR considers or has considered anything in this section a “recommendation” pursuant to Section 205(a), the FOMB hereby incorporates it into the Revised UPR Fiscal Plan pursuant to Section 201(b)(1)(K).

# HTA's projected fiscal situation with fiscal measures: Detail

Impacted by measure

In \$ thousands	2017-18 P	2018-19 P	2019-20 P	2020-21 P	2021-22 P	2022-23 P	6 Yr Total: FY18-FY23
Gasoline Tax	131,070	139,107	140,572	142,445	144,577	146,595	844,366
Diesel Tax	12,500	12,500	12,500	12,500	12,500	12,500	75,000
Petroleum Products Tax	290,748	290,748	290,748	290,748	290,748	290,748	1,744,485
Cigarettes taxes	19,992	19,992	19,992	19,992	19,992	19,992	119,952
Motor Vehicle License Fees	28,296	29,658	29,775	29,734	29,741	29,710	176,915
Act 30 - Licenses Fees Transferred to Act	51,998	54,501	54,716	54,640	54,653	54,596	325,104
Transit Revenues	8,052	9,308	9,406	9,531	9,674	9,809	55,779
<b>Operating Revenue</b>	<b>694,920</b>	<b>713,919</b>	<b>725,006</b>	<b>735,249</b>	<b>745,170</b>	<b>759,644</b>	<b>4,373,909</b>
State Funds Earmarked for CapEx	159,963	82,073	67,334	59,067	53,020	53,761	475,219
Federal Emergency Revenues	175,553	256,565	145,201	55,135	-	-	632,454
Transit Funds	51,857	70,000	70,000	25,000	25,000	25,000	266,857
Hurricane Loss Assessment - Insurance and FEMA Revenue	27,002	54,004	27,002	-	-	-	108,007
<b>Capital Contribution</b>	<b>547,140</b>	<b>868,318</b>	<b>630,958</b>	<b>319,221</b>	<b>231,850</b>	<b>232,591</b>	<b>2,830,079</b>
<b>Total Revenues After Federal Fund Transfers</b>	<b>1,242,060</b>	<b>1,582,237</b>	<b>1,355,965</b>	<b>1,054,470</b>	<b>977,020</b>	<b>992,235</b>	<b>7,203,988</b>
Right of Way	(3,300)	(3,300)	(3,300)	(3,300)	(3,300)	(3,300)	(19,800)
Design	(23,000)	(7,769)	(10,716)	(7,882)	(7,882)	(7,882)	(65,132)
Litigation Reserve	(6,465)	(8,516)	(9,809)	(10,722)	(11,442)	(11,004)	(57,957)
Right of Way Payments	(16,626)	(13,736)	(7,068)	(1,900)	-	-	(39,330)
Federal Emergency Repair Program	(175,553)	(256,565)	(145,201)	(55,135)	-	-	(632,454)
Local Emergency Repair Program	(6,496)	(7,780)	(3,240)	(2,484)	-	-	(20,000)
Transit CIP	(31,000)	(50,000)	(50,000)	(5,000)	(5,000)	(5,000)	(146,000)
Hurricane Loss Assessment - Local Funding Needs	(1,552)	(3,104)	(1,552)	-	-	-	(6,209)
Hurricane Loss Assessment - Insurance / FEMA Covered	(27,002)	(54,004)	(27,002)	-	-	-	(108,007)
<b>Total Construction</b>	<b>(633,269)</b>	<b>(904,711)</b>	<b>(660,717)</b>	<b>(461,444)</b>	<b>(402,432)</b>	<b>(400,300)</b>	<b>(3,462,873)</b>
<b>Total operating expenses</b>	<b>(190,151)</b>	<b>(204,691)</b>	<b>(177,399)</b>	<b>(168,557)</b>	<b>(155,507)</b>	<b>(152,857)</b>	<b>(1,049,162)</b>
<b>Total expenses</b>	<b>(823,421)</b>	<b>(1,109,403)</b>	<b>(838,115)</b>	<b>(630,001)</b>	<b>(557,939)</b>	<b>(553,157)</b>	<b>(4,512,035)</b>
<b>Total Fin. Gap Post-Measures before Rev Retention &amp; Gov. Funding</b>	<b>418,639</b>	<b>472,834</b>	<b>517,849</b>	<b>424,469</b>	<b>419,082</b>	<b>439,078</b>	<b>2,691,952</b>
Retained Revenues to Central Government	(534,603)	(546,505)	(548,303)	(550,059)	(552,211)	(554,141)	(3,285,822)
<b>Total Fin. Gap Post-Measures post-Rev Retention &amp; pre-Gov. Funding</b>	<b>(115,964)</b>	<b>(73,671)</b>	<b>(30,454)</b>	<b>(125,589)</b>	<b>(133,129)</b>	<b>(115,062)</b>	<b>(593,870)</b>
Transfer from Government of PR	138,100	97,300	73,900	222,400	238,000	224,900	994,600
<b>Total Fin. Gap Post-Measures after Rev Retention &amp; Gov. Funding</b>	<b>22,136</b>	<b>23,629</b>	<b>43,446</b>	<b>96,811</b>	<b>104,871</b>	<b>109,838</b>	<b>400,730</b>

Fiscal Measures by initiative, FY18-FY23 in \$million:



# 1 HTA will reorganize into a more effective organization focused on gaining synergies and carrying out its specific goals

## 1. Governance

- New structure attenuated from future political cycles and influence.
- The Board of Directors will include independent directors with the power to appoint/remove management; they will have expertise in roads, infrastructure, revitalization, innovation, and private sector partnerships

## 2. Organization

- Forward-thinking lean organizational strategy with best-in-class FTE efficiency achieved through workforce transition
- Construction and O&M program internally overseen but optimized through outsourcing
- Build scalable contract management approach, which aligns resource levels with funding

## 3. Objective Decision-Making

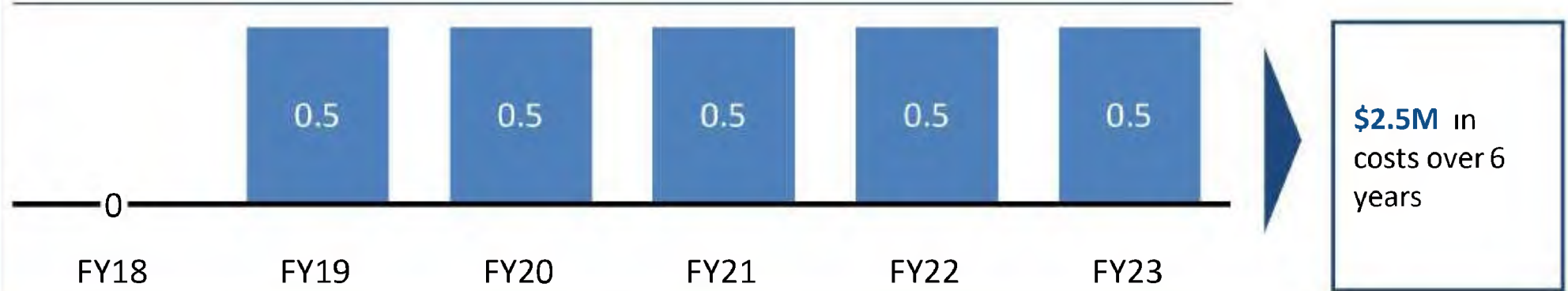
- HTA will prioritize the following key design principles to create more effective governance and organization structures:
  - Deliver upon HTA mission to provide a safe and efficient transportation system
  - Move towards a contract management model to deliver excellent service at best value
  - Outcomes-based prioritization of projects based on economic impact
  - Maximize access to federal funding and, if possible, facilitate future access to capital markets
  - Incorporate streamlined processes to deliver a lean and effective organization
  - Include public policy decisions as defined and measured input into cost-benefit analyses
- HTA will institute a performance based culture in which:
  - Project and program performance are evaluated based on industry standard KPIs
  - All employees evaluated on merit principle, with strict position control and cost-benefit analysis requirements for all new positions and promotions



# 1 HTA's new board structure will increase other operating expenses by \$500k per annum

- Beginning in Fiscal Year 2019 – PRHTA will operate under the control of a new board, which includes four industry expert board members.
- In order to attract and retain board members with the desired qualification, HTA will need to compensate non-employee members in a manner similar to private board members.
- HTA intends to compensate each non-employee board member **\$75k per year**. Total direct compensation will total **\$300k per year**. Board members are paid salaries as stipends, and are not entitled to any payroll benefits.
- These professional board members will be identified by a search firm, at an estimated cost of 33% of board compensation, total search fees not to exceed **\$100k in years in which new members are recruited**.
- Each board member will be reimbursed for applicable office expenses and required board travel based on expenses incurred at a rate of **\$25k per year, or \$100k total per year**.
- In total, the new, professional board structure will **increase other operating expenses by \$500k per year**, and serve to enable the organization to operate as an objective corporate-like entity.

Total cost to implement \$M





# 1 The new board structure will consist of both administration leaders and independent members to ensure effective governance of the organization

## Board Design Overview

- A** Establish an independent governing body of 7 members with a minority (3) appointed by the Governor and a majority (4) identified by a private search firm from the private sector (and approved by the Governor).
- B** Stagger membership tenure to further mitigate the risk of board disruption through political turnover.
- C** Achieve desired expertise to maximize efficacy of long-term strategic planning and decision-making.
- D** Apply strict conflicts of interest limitations and independence requirements to ensure that directors are correctly incentivized.
- E** Appointment and removal of HTA leaders entrusted in the board, according to objective, merit-based standards, and pre-established KPIs

**HTA board members will be held to the highest ethical standards, independent members can only be removed from roles before term expiration for a breach of the public trust**



Industry experts will be identified by a professional search firm, approved by the Governor and serve staggered 2, 4, and 6 year terms, with 5 year terms following. Estimated cost of maintaining professional board is \$500K per year

New tools to track key performance indicators

- HTA is reshaping its organizational culture to emphasize accountability and performance through the use industry best practice Key Performance Indicators (KPIs)
- HTA has developed performance management dashboarding capabilities for many of its key programs, including:
  - Construction Department Controls included within Fiscal Plan Assumptions
    - Pre-construction planning timeline and cost variance (Target <15%)
    - Bid price-to-completion variance (Target <15%)
  - Road Network Condition Improvements have been Targeted in the Capital Improvement Plan
    - Improve and Maintain Road Conditions to Federal Categories of Good and Fair (Target 95%)
    - Improve and Maintain NBI bridge conditions (deck area) to achieve and sustain a state of good repair (Target 95%)
  - Incident Response – HTA has developed an Incident Response Dashboard, tracking incident response time, average service time (tow and non-tow) and tracking progress towards mainland benchmarks, including:
    - Average Response Time Incidents & Service Patrol (Target < 15 minutes)
    - Average Roadway Clearance Time (Target < 90 minutes)
    - Incident Duration Classification (Targets TBD)
- HTA is developing systems to support performance management metrics
  - HTA is developing integrated Traffic Management Center reporting system (Sunguide) in collaboration with the Southwest Research Institute (SwRI).
  - HTA's Performance Management Information System (PMIS) will go live by the beginning of FY19, with additional modules coming online by Dec. 2019. HTA will utilize this system to support improved metrics collection, reporting and management, including:

■ Highway safety (accident and fatality rates)	■ Farebox Recovery Ration
■ Transit usage	■ Environmental Impact
■ Signal Conditions	■ Urban Area Congestion

## 2 Priority organizational dashboard KPIs over the next six years

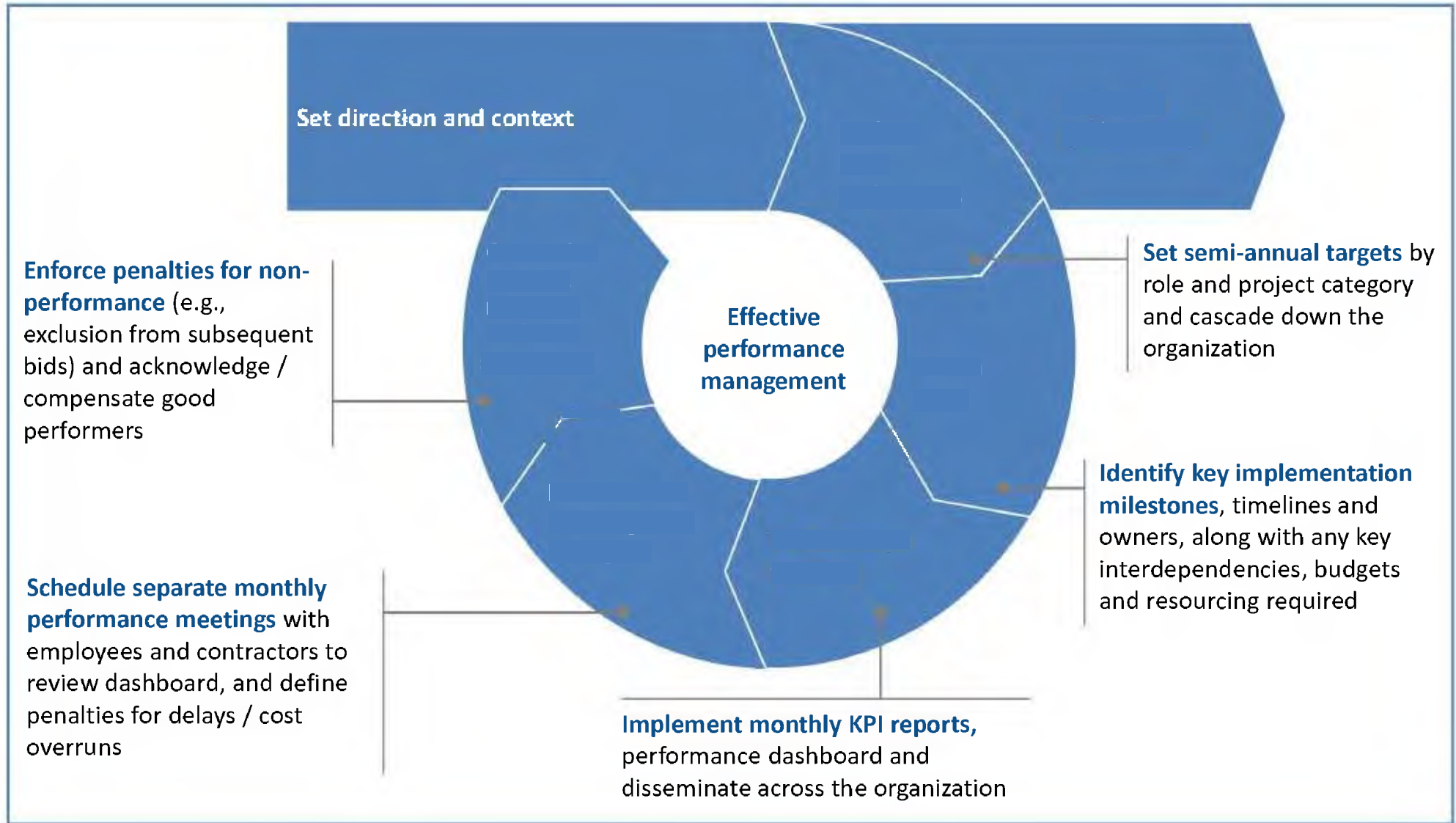
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Category	Indicator	Metrics <sup>1</sup>
		<ul style="list-style-type: none"> <li>Reduce road fatality rates (PR - 2.13 per 100M VMT, most unsafe US state (South Carolina) - 1.88 VMT)</li> </ul>
		<ul style="list-style-type: none"> <li>Reduce single passenger automobile journey to work (PR - 80%, US average - 76%)</li> </ul>
		<ul style="list-style-type: none"> <li>Reduce the congestion cost per commuter (San Juan - \$1,150, US average - \$1,045)</li> </ul>
		<ul style="list-style-type: none"> <li>Reduce travel time index (PR - 1.31, US average - 1.23)</li> </ul>
		<ul style="list-style-type: none"> <li>Reduce GHG transportation emissions - PR currently at ~11 MMtCO<sub>2</sub>e</li> </ul>
		<ul style="list-style-type: none"> <li>Generate enough excess cash flow to be able to fund strategic projects (e.g., Traffic reduction) and sustainable debt service</li> </ul>
		<ul style="list-style-type: none"> <li>Reduce pre-construction planning timeline and cost variance to &lt;15%</li> </ul>
		<ul style="list-style-type: none"> <li>Reduce bid price-to-completion variance to &lt;15%</li> </ul>
		<ul style="list-style-type: none"> <li>Reduce average incident response time and service time to &lt; 15 minutes</li> </ul>
		<ul style="list-style-type: none"> <li>Reduce average roadway clearance time to &lt; 90 minutes</li> </ul>
		<ul style="list-style-type: none"> <li>Reduce annual O&amp;M expenditures - ~\$7.4M yearly savings expected from contract re-bid and toll optimization</li> </ul>
		<ul style="list-style-type: none"> <li>Increase farebox recovery ratio across all transit operations – estimated at ~39% for new BRT</li> </ul>
	Resilience	<ul style="list-style-type: none"> <li>Improve and maintain road conditions to Federal categories of Good and Fair (i.e., 95%)</li> <li>Improve and maintain NBI bridge conditions (deck area) to achieve and sustain a state of good repair (i.e., 95%)</li> </ul>

<sup>1</sup> HTA will undertake a long range planning effort to set targets against these key metrics, and strive to make improvements towards US national benchmarks

SOURCE: US DOT, Texas A&M Transportation Institute, PR DRNA, ACS, BTS

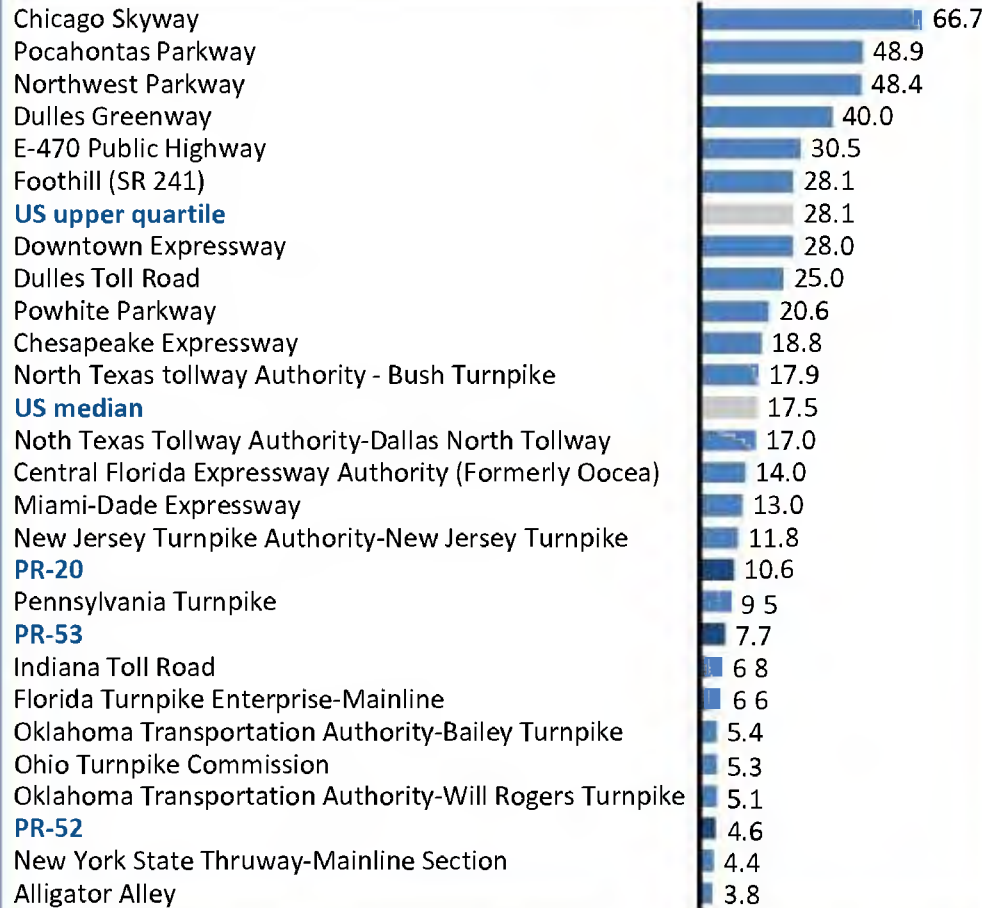
## 2 A priority set of KPIs will facilitate improved performance by increasing transparency and providing a base for incentives / penalties



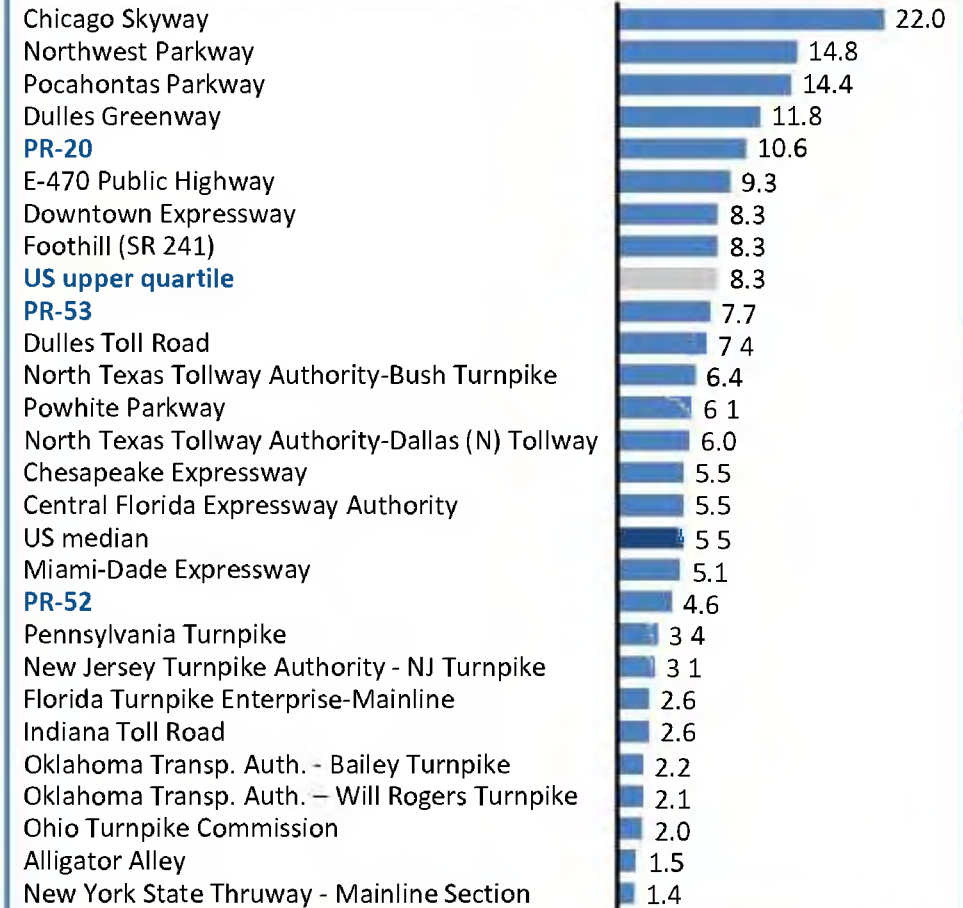


# Unlike PR-22, which is operated by concessionaires, HTA has not implemented a regular toll rate increase system to keep up with inflation

Toll mile comparison by state<sup>1</sup>, cents



Income adjusted toll mile comparison by state<sup>1,2</sup>, cents

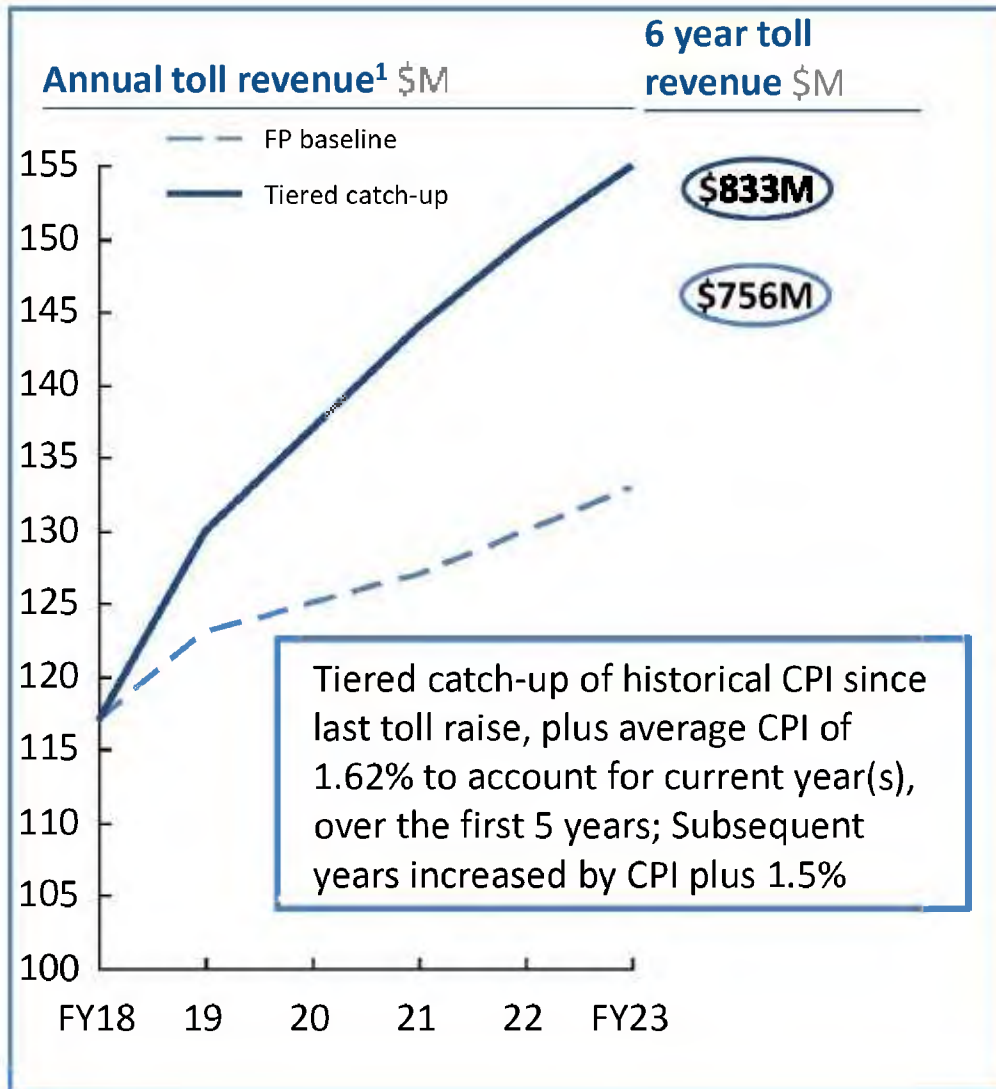


- HTA has not increased tolls in line with inflation, while PR-22 (concessioned) has implemented regular rate increases to keep up with inflation. As such, PR-22 and PR-5 are not reflected in the above, nor is PR-66 which as of today is priced in line with peer states
- On a toll per mile basis, PR-52 and PR-20 are below the US median, while PR-53 is below the upper quartile
- On an income adjusted toll per mile basis, PR-52 is below the US median, PR-53 is below the upper quartile while PR-20 is in the top quartile

<sup>1</sup> Toll rates are the standard Electronic Tag Tolls with no further discounts (e.g., no weekend, volume, senior, loyalty programs). Tolls as of Jan 2018

<sup>2</sup> Income adjusted to specific road corridor within Puerto Rico

## Increasing tolls based on a tiered CPI catch up should generate ~\$77M in incremental revenue from 2018 to 2023



- HTA can increase toll revenues by ~10% or \$77M over the next 6 years, by adopting a tiered increase in toll rates between FY19-23
- PR-52 represents 91% of the \$77M incremental revenues, and is currently **below the income adjusted US median toll per mile** (see previous slide)
- The **tiered catch up** helps to ensure that the **purchasing power of toll revenues keeps up with inflation**, and is supported by third party revenue estimates

<sup>1</sup> Scope includes existing tolls only (i.e., PR-20, PR-52 and PR-53), and excludes higher tolls on PR-66

SOURCE: SDG toll rate benchmarking analysis, SDG toll rate & traffic revenue forecast



# PR-52, which is >90% of incremental revenues, will have average annual increases of 5 cents on toll plazas over the next 5 years

## Toll rate projections<sup>1</sup> \$

Toll plaza	2018 (existing)	2019	2020	2021	2022	2023
MONTEHIEDRA	0.35	0.37	0.39	0.41	0.43	0.46
CAGUAS NORTH	1.50	1.59	1.69	1.79	1.88	1.98
CAGUAS SOUTH	1.00	1.06	1.13	1.19	1.25	1.32
SALINAS	1.75	1.86	1.98	2.09	2.20	2.32
SOUTH RAMP SAL.	0.35	0.37	0.39	0.41	0.43	0.46
NORTH RAMP J DIAZ	0.50	0.53	0.56	0.59	0.62	0.66
SOUTH RAMP J DIAZ	0.50	0.53	0.56	0.59	0.62	0.66
PONCE	0.75	0.79	0.84	0.89	0.93	0.98

- Toll rates on PR-52 will increase by **5.5% annually between 2019-23 to catch-up with CPI, and increase at CPI plus 1.5%(~3%) subsequently, in line with PR-22**
- **Toll roads would continue to offer significant time and reliability value to customers that well exceeds out of pocket costs** (total cost of delay of \$9.10 an hour<sup>2</sup> for someone taking an alternative toll-free route from Ponce to San Juan, vs. \$5.51<sup>3</sup> total tolls paid on PR-52 via Ponce, J. Diaz, Salinas, Salinas South Ramo, Caguas North and Montehiedra toll plazas).

<sup>1</sup> Tiered catch-up of historical CPI since last toll raise, plus average CPI of 1.62% to account for current year(s), over the first 5 years. Subsequent years increased by CPI plus 1.5%

<sup>2</sup> Assumes \$7.00 wage cost per hour (50% of hourly wage) and \$2.10 cost of excess fuel per hour. Total delay of one hour based on estimated additional time taken for a one way trip on a toll free route (i.e., PR-14) from Ponce to San Juan vs. PR-52, departing at 8am on a weekday

<sup>3</sup> Based on total tolls in 2019 (after first year of increase)

SOURCE: BLS, Reuters, SDG 2018 tolling report

# HTA expects to increase federal funding by over \$50M over six years by targeting discretionary federal grants, including the \$18B PR CDBG allocation

Key program opportunities

Program	Total Program Funding (To date) <sup>1</sup> , \$M	Funding received by Puerto Rico (To date) <sup>1</sup> , \$M	Funding received by PR (% of total)
	37,659	\$308	0.8%
	28,000	\$18,000	64%
	26,000	\$300	1.2%
	3,581	\$10	0.3%
	840	\$0	0%
	68	\$0.10	0.1%

- **\$18.1B in HUD CDBG-DR funding has been awarded Puerto Rico**, providing a set of funds that HTA has the opportunity and commitment to pursue
- **PR has not secured any discretionary grants over the last 5 years** - the last discretionary grant Puerto Rico received was in 2012 under IBRD, while TIFIA and CIG grants date to the early 2000s
- **PR can generate at least ~\$15M in additional run rate funding by 2023 or >\$50M over 6 years**, by capturing 0.3% of the CDBG-Disaster Relief grant to PR, or its per capita fair share (1%) of only TIGER and INFRA funds
- **HTA will meet the local share of all additional federal funding it receives**

<sup>1</sup> Time period for each program denoted in brackets

<sup>2</sup> ~\$2.3B available p.a. from FY 2018

SOURCE: FHWA website, transportation.gov

## Background

### ▪ System Improvements and Vendor Enhancements

- **Open Road Toll (ORT) System Enhancement:** Improve legacy system's ORT hardware (lasers, cameras, antennas and sensors) and software that will allow HTA to reduce leakage, improving TAG (AutoExpreso) and License Plate transaction data and increased accuracy and reliability of vehicle classification.
- **Toll Operator Improvement:** Upgrade system to improve toll transaction life cycle and user accounts recharge channels, decrease gross Violations (better violation management and violation letter bundling), provide consistent reporting, improved system monitoring, minimize redundancy and reduce current revenue leakage. In addition, HTA expects improved customer service.
- **Violation Avoidance:** Create automatic registration functionality, based on AutoExpreso traffic records, between the user's tag code (AutoExpreso) and the user's vehicle license plate number, allowing HTA to charge vehicles based on license plate, when the tag code is not available. This functionality will reduce the amount of violations as those transactions will be charged to the AutoExpreso user rather than becoming a Violation, in addition to reducing the current Violations Management cost supported by PRHTA.
- **Improved Void Accountability:** Map all types of "void" transactions (those that are not pursuable due to data quality) and define which void transactions HTA should not be paying for. (Currently, HTA pays for all void transactions).

### ▪ New Initiatives

- **ORT Conversion:** Convert existing (canalized) lanes into ORT lanes. HTA expects the latter to be more accurate and have lower leakage as well as better classification.
- **Web Maria:** Collect post-Hurricane Maria toll fares that could not be collected in the weeks following the hurricane.

## Analysis of Opportunity

\$M	FY18	FY19	FY20	FY21	FY22	FY23	FY18-FY23 total	
ORT System Enhancement	1.9	4.6	1.3	1.3	1.3	1.3	11.7	[A]
Toll Operator Improvement	-	-	1.8	5.4	5.4	5.4	17.9	[B]
Violation Avoidance	-	(3.8)	(3.9)	(4.1)	(4.2)	(4.2)	(20.1)	[C]
Improved Void Accountability	-	1.8	1.8	1.8	1.8	1.8	8.9	[D]
<b>System Improvements and Vendor Enhancements</b>	<b>1.9</b>	<b>2.6</b>	<b>1.0</b>	<b>4.4</b>	<b>4.3</b>	<b>4.2</b>	<b>18.4</b>	
ORT Conversion	-	3.9	-	(3.9)	(6.0)	2.1	(7.8)	[E]
Web Maria	3.5	-	-	-	-	-	3.5	[F]
<b>New Initiatives</b>	<b>3.5</b>	<b>3.9</b>	<b>1.0</b>	<b>(3.9)</b>	<b>(6.0)</b>	<b>2.1</b>	<b>(4.3)</b>	
<b>Total Savings</b>	<b>5.4</b>	<b>2.6</b>	<b>1.0</b>	<b>0.5</b>	<b>(1.7)</b>	<b>6.3</b>	<b>14.1</b>	

[A]: ORT System Enhancement: HTA's vendor negotiations will produce cost savings of \$6.5mm over 17 months in FY18 and FY19.

[A]: ORT System Enhancement: based on toll operator experience, HTA expects upgrades of the current system will reduce revenue leakage by around 1% or \$1.3mm/year.

[B]: Toll Operator Improvement: based on toll operator experience, HTA expects improving operator capability to increase revenue by 2% (reduced leakage) and reduce cost by 20%; needed CAPX = \$3.5 mm, starts FY19.

Includes Eclipse \$500k / year and a one-time \$50K RFP cost

[C]: Violation Avoidance: based on toll operator experience, HTA expects adding automated license plate / AutoExpresso tags will help HTA to reduce violations (currently 600K / month) by 25%, at \$0.60 cost per letter, savings achieved are about \$1.1mm / year. [C]: Violation Avoidance: based on toll operator experience, by adding automated license plate / AutoExpresso tags, HTA will be able to reduce its violations by 25%. Accordingly, it will automatically collect the average toll fare of \$1.06 versus the \$0.23 on average that it collects currently on each violation letter sent (due to its 22% violation collection rate). Reducing the 600K violations letters it sends each month by 25% leads HTA to send 150K fewer violation letters. The difference of \$0.83 collected per instance for 150K instances per month is \$125K additional revenue per month, or \$1.5mm per year.

[C]: Violation Avoidance: as noted above, based on toll operator experience, HTA expects to reduce its violations by 25%. Without this change, HTA's baseline projection is to receive about \$26.6 mm per year in toll violations. Reducing violation instances by 25% would have a proportional impact on HTA's violation revenue, or an average reduction of about \$6.7 mm per year.

[D]: Improved void accountability: based on toll operator experience, HTA expects a decrease of 140K voids per month that HTA is currently paying for (or about 4% of the total gross violations). For each of 140K voids per month, HTA no longer will pay the average toll fare of \$1.06, and will save about \$150K per month, or about \$1.8mm per year.

[E]: ORT Conversion: based on toll operator experience, at select plazas, HTA expects 5% revenue gain from increased traffic bi-directionality. The current revenue baseline for those plazas is \$47 mm, so a 5% increase would lead to a \$2.3 mm per year revenue increase (starting in FY20). The CAPX needed to support this investment is \$21mm.

[E]: ORT Conversion: based on toll operator experience, at select plazas (rolled out in three phases CAPX \$18mm), HTA expects 2% revenue gain from ORT based on reduced leakage. The revenue baseline for those plazas (for all three phases) is \$96 mm, so a 2% increase would lead to a \$1.9mm per year revenue increase once all the phases are complete. Similarly, HTA expects 3% cost reduction mostly from lower maintenance costs. On a cost baseline of \$12mm, a 3% reduction would lead to savings of \$0.4 mm per year.

[F]: Web Maria: estimate of how much of the \$7 mm revenue HTA can recover (assumed 50% recovery) from those drivers not able to pay their tolls for weeks following Hurricane Maria.

## Implementation timeline and expected annual savings

### Savings from Toll Collection Optimization, FY18-FY23 (\$M)



**\$14.M** in savings over 6 years

# HTA can secure \$11M in ancillary revenue over the six year plan period [1]

## HTA will continue to explore innovative ways to increase revenue, including:

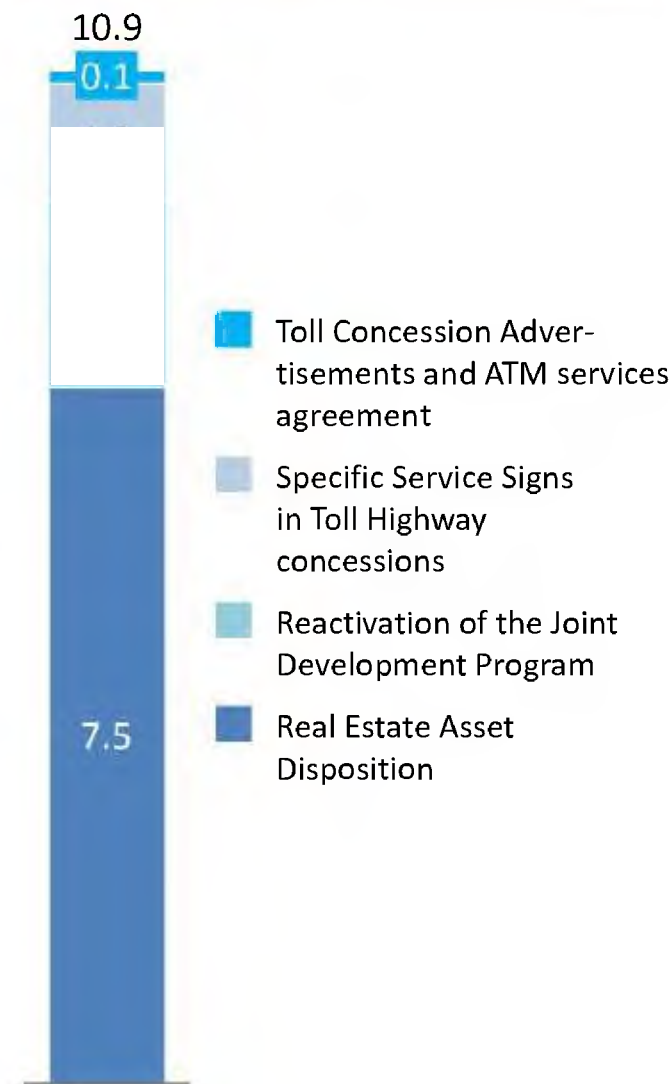
- **Real Estate Asset Disposition:** HTA estimates a potential \$1.5M of annual revenue by developing a noncore asset disposition program
- **Reactivation of the Joint Development Program:** This program provides for residential/commercial projects in the Tren Urbano corridor
- **Specific Service Signs in Toll Highway Concessions:** Implementation of service signs could result in ~\$250K of annual revenue to HTA
- **Toll Concession Advertisement and ATM services agreement:** HTA estimates the potential for \$25-30K of annual revenue related to concession advertisements

## HTA will research and consider the below potential revenue streams:

- **Traffic Information Monetization:** Identify opportunities to monetize traffic information and continue to expand highway sensor network.
- **Right of Way / Utilities Infrastructure Rights:** Determine opportunity for monetizing unused right of way via utilizes and other infrastructure rights.
- **Other-Mobility Services:** Evaluate viability of increasing mobility services (park & ride / ride share) and develop an implementation plan as necessary
- **Equity Solutions:** Equity in new P3 concessions could be used to settle debt obligations and raise capital for reinvestment

## Other Revenue Initiatives

FY18-FY23 Total, \$M

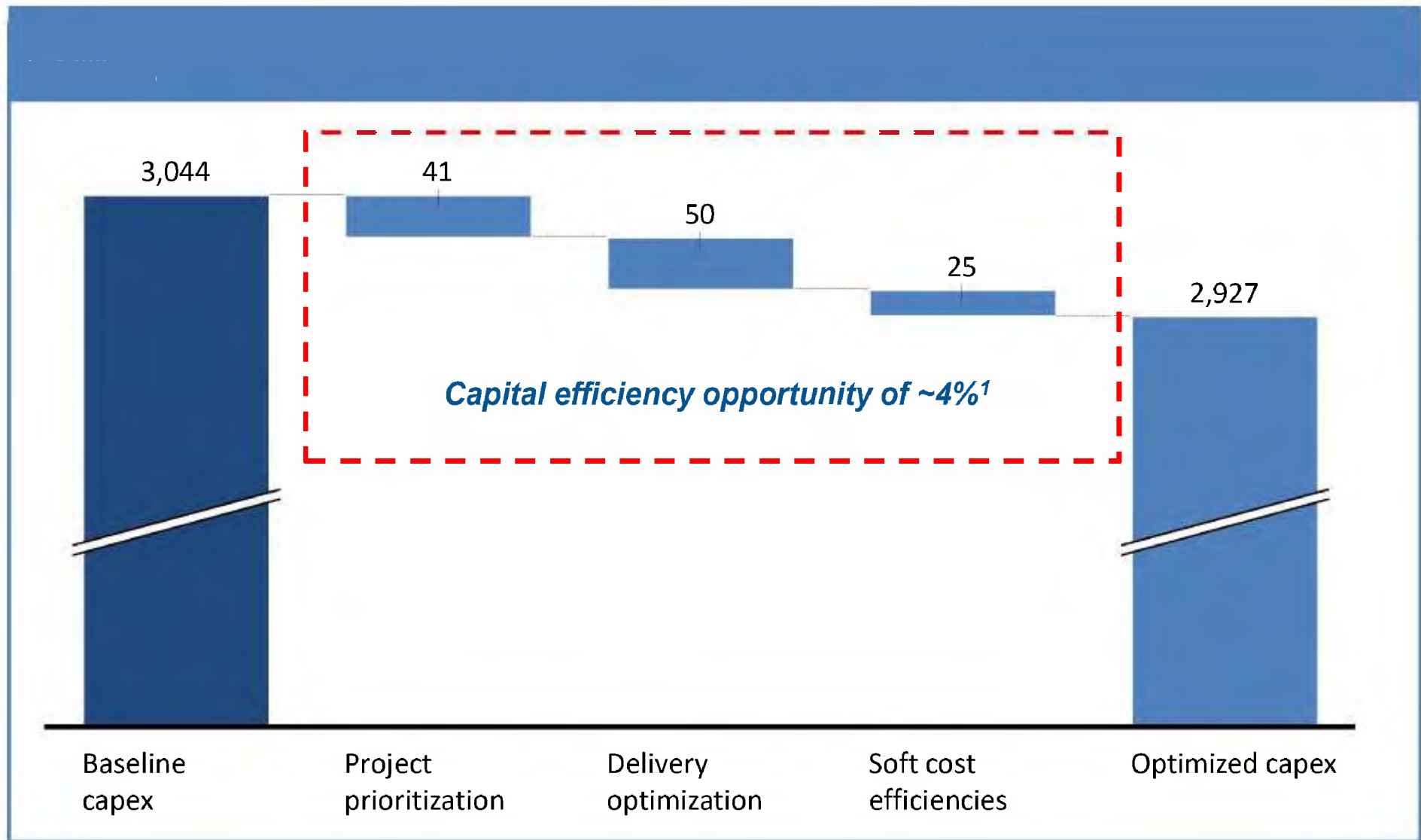


[1] specific dollar estimates from HTA's July 2017 Fiscal Plan



# A total capital efficiency opportunity of ~4% will help HTA target improved performance within a constrained capital environment

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<sup>1</sup> Best in class project prioritization in infrastructure projects can save 7-15% while improved delivery efficiencies can reach 15-25% in savings. Based on these benchmarks, further opportunity may exist in addition to the estimate of 4% across the portfolio. The delivery optimization opportunity is discounted using the Commonwealth's inflation adjustment to account for potential increases in construction costs.



# HTA will target capital efficiencies through project prioritization, delivery improvements, and soft cost savings

Key levers		Capex reduction, %	Estimated savings, \$M
	<ul style="list-style-type: none"> <li>Further align projects with socioeconomic priorities e.g., congestion, road quality, average AADTs, and economic benefits</li> <li>Further review STIP and CIP projects on secondary and tertiary roads and de-prioritize roads with less AADTs and economic benefit, to ensure that resources are being well utilized in capital constrained environment</li> </ul>	~1.4%	\$41
	<b>6a</b> PR-66 case study highlights proof-of-concept that projects can be limited to a <b>5% targeted cost overrun by improved delivery</b> <ul style="list-style-type: none"> <li>Additional optimization with <b>project management</b>, contractor <b>incentives</b> (e.g., ratings/bonuses), and <b>contract structures</b> (passing delivery risk)</li> <li><b>Improve project execution on whole portfolio</b> with improved delivery with <b>on locally</b> funded roads projects and <b>federally</b> funded roads projects, with innovative contracting and better project execution</li> </ul>	~1.6%	\$50
<b>6b</b>	<ul style="list-style-type: none"> <li>Find opportunities to <b>segment Federal and non-Federal dollars to reduce pre-construction regulatory burden</b></li> <li><b>Capture efficiency benefits of outsourcing</b> (economies of scale etc.) and reduce overall budgeted soft costs to allow for lower soft cost budgets for both federal and state construction projects (~\$200M value at stake)</li> </ul>	~0.8%	\$25
<b>Total</b>			<b>\$116</b>

1 Value at stake limited to not-yet-active locally funded roads projects.

2 Value at stake limited to not-yet-active roads projects. Previous estimates had an additional ~\$78M opportunity for delivery optimization, but because construction cost inflation was not factored into previous analyses, an inflationary factor in line with the Commonwealth (~1.5-2%) was added to reduce the CIP's delivery optimization opportunity by approximately ~\$78M. Note that other Title III instrumentalities (PREPA and PRASA) did not adjust Fiscal Plans for inflation.

- Highway projects have historically been delivered using a design-bid-build process, where construction contracts have been structured on a per-unit-price basis.
- Because the bidding process (via RFP) has been typically based on unit price contracts, contractors have not been incentivized to present bids with the lowest possible costs to adequately complete a project. Instead, contractors provide unbalanced bids that result in higher prices at project completion. This problem has been extensively discussed in the construction management literature.
- Additionally, because construction has been predominately managed in-house, personnel costs have not declined commensurately with less construction spend, nor were in-house managers' appropriately incentivized to adhere to project goals.
- These methods of project execution have resulted in cost overruns averaging 30% and significant completion delays.<sup>1</sup>
- Some historical projects have seen better success – such as PR- 66 which experienced just 5% cost overruns when it utilized outsourcing and innovative contracting to improve project execution.<sup>3</sup> *See the following page for additional discussion on the results of PR-66.*
- HTA has already begun transforming its project delivery capabilities in an attempt to eliminate its project backlog. These transformations have begun via compliance with the Memorandum of Understanding (“MOU”) between the HTA and the FHWA.<sup>4</sup> *See the Appendix for more information on the MOU.*
- HTA forecasts that by complying with the objectives specified in the MOU, and more widely implementing an outsourcing model and innovative contracting methods, the organization can reduce cost overruns by more than 15%.<sup>3</sup>
- Implementing the outsourcing and innovative contracting models will better align contract managers' incentives with on time/on budget project delivery, improve HTA's ability to scale staff to properly implement construction spend, and align contractors' incentives for more cost-conscious competitive bidding, among other benefits.
- The baseline Fiscal Plan already includes project execution improvements and estimates 15% cost cost overruns.
- If HTA continued with historical highs of 30% cost overruns, the baseline CIP would be \$279M higher than forecasted in the baseline. These savings have not been factored as its own fiscal measure due to how the CIP was prepared.

<sup>1</sup> Historical cost overruns estimate provided by HTA Management.

<sup>2</sup> Industry standard cost overruns provided by HTA construction office.

<sup>3</sup> 2016 Case Study on PR-66 base on published technical papers. González Quevedo, Sergio L., Effective Competitive Procurement and Financing with Innovative Contracting: The Solution to Transportation Infrastructure Construction, Operations and Maintenance in the 21st Century, Key Note Speaker in CRC 2016, June 2016.

<sup>4</sup> MOU signed by the government of Puerto Rico and Federal Highway Administration. Source: MOU-PR2016-02-29-094734.

### Case Study: PR-66 1, \*

During construction of Phase II of PR-66, HTA utilized (i) innovative contracting, such as simplifying the RFP process by prequalifying bidders and granting early completion bonuses, and, (ii) outsourcing, to unlock future savings from value engineering to reduce cost overruns to 5% and project duration to just 6% over schedule.<sup>1</sup>

Previous phases of PR-66 were delivered via design-bid-build using a unit-price contract. These phases had average cost overruns of 33.1% and average project delays of 60%.<sup>1</sup>

Notably, cost and project duration savings occurred once HTA fully utilized both innovative contracting and outsourcing.

#### Some Benefits seen during PR-66 Phase II:\*

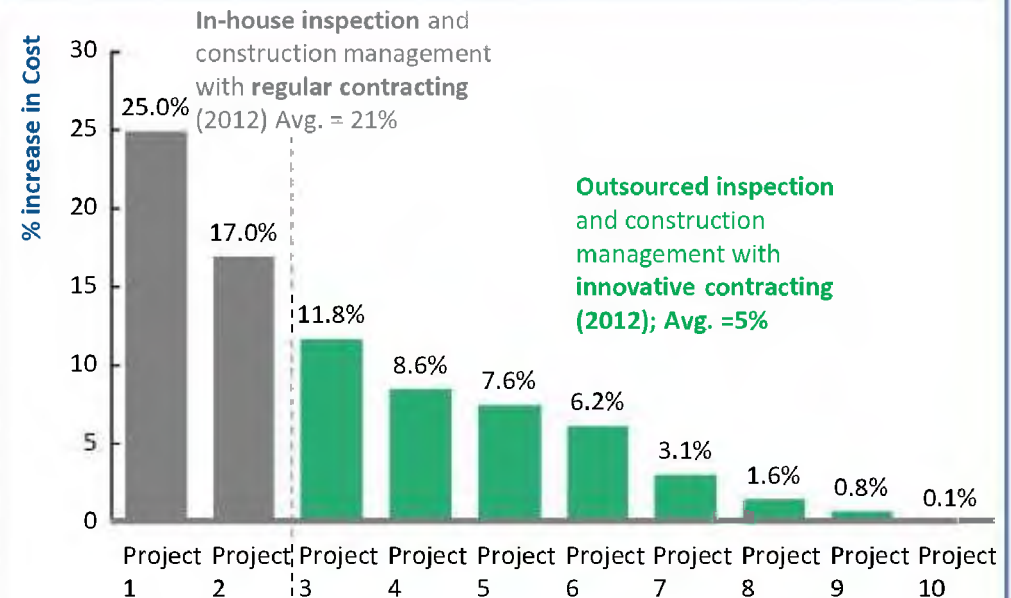
##### Outsourcing

- Increased flexibility to hire specialized support for projects
- Increased usage of value engineering
- Increased ability to scale staff to properly implement the funding
- Better aligned managers' incentives with on time/on budget project delivery

##### Innovative Contracting

- Streamlined RFP process (such as prequalified bidders), thus reducing process duration
- More competitive bidding process drove costs down
- Better structured contracts aligned incentives with project goals (e.g. early completion bonuses)

### Sample PR-66 Project Results: Project Execution Methods Lead to Cost Differences<sup>2</sup>



Out of ten sample PR-66 projects in 2012, two projects used historical execution methods which resulted in 21% cost overruns. When innovative contracting and outsourcing was used, the projects averaged just 5% overruns. Over the course of the entire PR-66 project, cost overruns averaged 33.1%.<sup>1</sup>

<sup>1</sup> 2016 Case Study on PR-66 base on published technical papers. González Quevedo, Sergio L., Effective Competitive Procurement and Financing with Innovative Contracting: The Solution to Transportation Infrastructure Construction, Operations and Maintenance in the 21st Century, Key Note Speaker in CRC 2016, June 2016

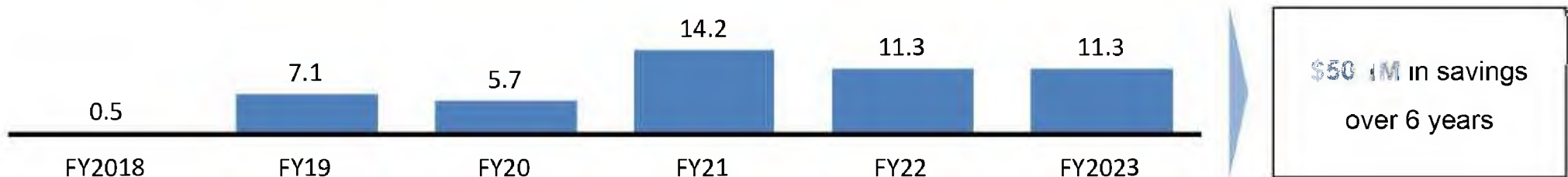
<sup>2</sup> González Quevedo, Sergio L., J.J Fontán et al. Use of Hybrid bidding method for costs and risks reductions in highway construction. Construction Research Congress. 2016, pp. 759–769. 2016

## Background

- From 1986-2015, HTA experienced 20% cost overruns on construction projects on a weighted average basis. In 2015, cost overruns averaged approximately 29%.
- In prior years, construction cost overruns could be as high as 37% per year.
- These cost overruns resulted from poor cost minimizing incentives in the RFP process, high headcount in periods of low construction spend, and a lack of adequate incentives for internal staff to adhere to project cost and duration goals.

## Proposed Changes

- Not all projects have seen higher-than-budgeted costs. For example, some portions of PR-66 experienced just 5% cost overruns when HTA effectively used outsourcing and innovative contracting to improve project execution.<sup>2</sup> (See previous slide for additional discussion on the results of PR-66).
- In its baseline projections**, HTA has already set aggressive targets for reducing cost overruns to 15% or 8% depending on project type; thus reducing expected construction cost overruns by 24% and 60%, respectively, when compared to the 20% historical weighted average. This change represents savings of approximately \$92M already captured in the baseline.
- Via improvements from outsourcing and innovative contracting on all applicable federal and local projects not yet underway,<sup>3</sup> HTA is aiming to reduce its cost overruns from 15% to 8-10%. In total, after accounting for the Commonwealth's inflation adjustment, these changes represent an estimated **\$50.1M** in savings.



<sup>1</sup> Historical cost overruns estimate provided by HTA Management.

<sup>2</sup> 2016 Case Study on PR-66 based on published technical papers. González Quevedo, Sergio L., Effective Competitive Procurement and Financing with Innovative Contracting: The Solution to Transportation Infrastructure Construction, Operations and Maintenance in the 21st Century, Key Note Speaker in CRC 2016, June 2016

<sup>3</sup> Assumes reduced contingency for bridge projects to factor in the more intensive requirements and uncertainty.



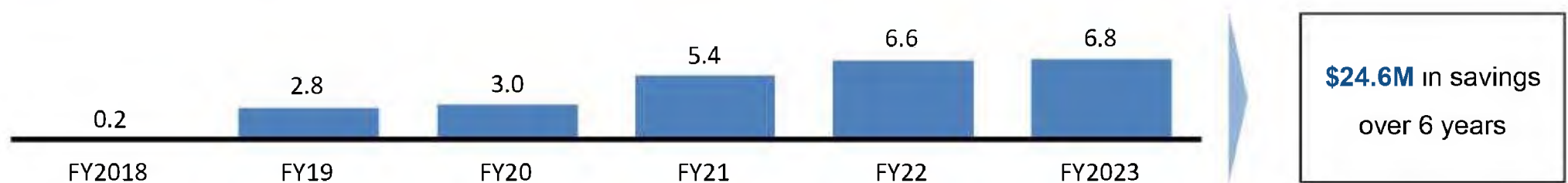
### Background

- HTA estimates that external soft costs will average 18.5% of hard costs. Of this total, planning, development, and environmental costs have been estimated to be 3.0% of hard costs.
- In FY18-FY19, HTA has begun to execute an accelerated program for eligible reconstruction costs.
- Under this program, planning, development and environmental costs were reduced to 1.0% of total hard costs.

### Proposed Changes

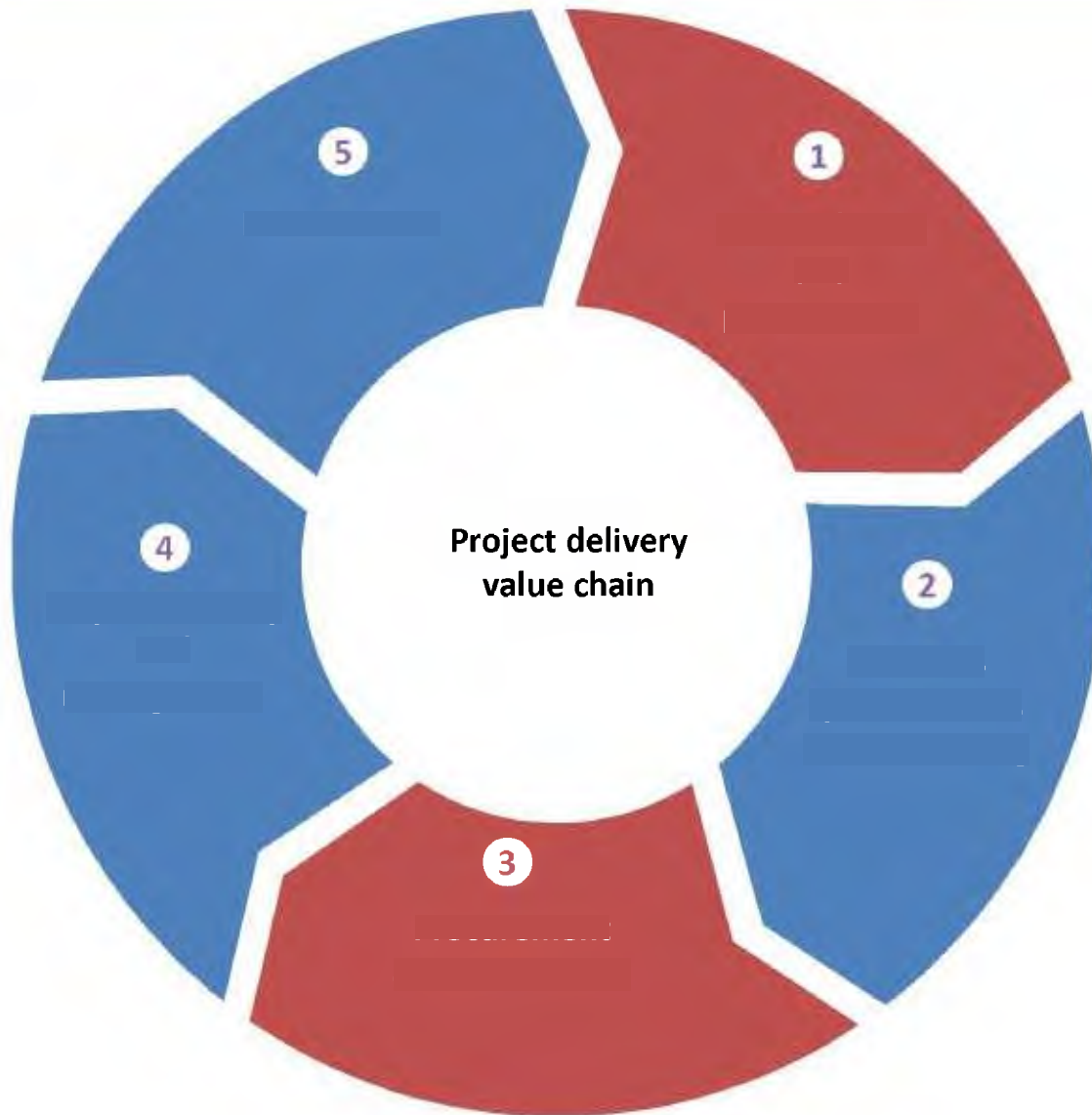
- HTA will expand the accelerated reconstruction program to eligible projects, improving project delivery time and reducing total soft costs on these projects by ~22%.
- HTA estimates that **\$730.6M** in hard costs could be covered by this program over the 6-year period, resulting in savings of ~**\$25M**.

\$ millions	Total Hard Costs	Eligible Hard Cost	Eligible Soft costs	Post-Measure Soft Costs	Savings
Earmarked Projects	22.1	19.9	2.1	1.7	0.4
STIP	478.2	264.2	33.7	26.5	7.2
Long-term CIP	641.7	446.5	79.0	62	17
<b>Total</b>	<b>1142.0</b>	<b>730.6</b>	<b>114.8</b>	<b>90.2</b>	<b>24.6</b>



# Project delivery value chain opportunities exist allowing delivery optimization and efficiency, and outsourcing to reduce costs

Outsourcing opportunities  
Internal optimization opportunities



## Opportunities to outsource for higher quality and lower costs:

Planning, specifications, and estimating:

*Outsourcing of project PS&E functions*

Project delivery and management:

*Contractor rating systems to incentivize and use past performance as a measure for winning future contracts*

Maintenance:

*Evaluate maintenance contracts, enforce contractual obligations, and develop innovative incentives*

## Internal optimization measures:

Project funnel and prioritization:

*Agency to assess project needs and prioritization, and create a project funnel in line with fiscal constraints*

Procurement and contracting:

*Alignment of payment methods (e.g., CHICA, unit price) based on project type, size, and scope*



# HTA has utilized multiple delivery methods and payment structures in the past, and plans to utilize those experiences to further improve delivery

	Utilization	Current challenges	Improvement opportunities
Design-bid-build	<ul style="list-style-type: none"> <li>Most commonly used method in PR for highway projects</li> <li>Unit price payment structure typically incorporated</li> </ul>	<ul style="list-style-type: none"> <li>Quantity uncertainty has resulted in significant cost overruns and schedule delays</li> <li>Unbalanced bids producing cost overruns and schedule delays</li> <li>Contractors may not be incentivized by completion cost</li> </ul>	<ul style="list-style-type: none"> <li>Improve project quantification during project the project scoping, and design stage</li> <li>Consider project risk transfer when selecting payment structure</li> <li>Evaluate hybrid payment structures when possible</li> </ul>
Design-build	<ul style="list-style-type: none"> <li>Utilized in late 90's for Carolina to Canovanas projects</li> <li>Contractor prequalification based on experience and financials</li> </ul>	<ul style="list-style-type: none"> <li>Previous project financing utilized PRHTA municipal bonds</li> <li>Delivery method previously utilized for specific projects, current project pipeline limited</li> <li>Limited apparent recent utilization for project delivery</li> </ul>	<ul style="list-style-type: none"> <li>Identify potential projects that could effectively utilize a design-build delivery (DB) method</li> <li>Right size volume of DB projects to increase competition</li> <li>Evaluate hybrid payment structure for optimal risk transfer</li> </ul>
Public private partnership	<ul style="list-style-type: none"> <li>P3s have become the globally preferred solution for large scale, complex projects</li> </ul>	<ul style="list-style-type: none"> <li>Need to explore further funding for P3 project opportunities</li> <li>Processes have taken longer and required more external support given potential complexity</li> </ul>	<ul style="list-style-type: none"> <li>Identify project opportunities that would generate sufficient revenues to service debt</li> <li>Evaluate and optimize risk transfer during procurement</li> <li>Explore bundling a series of smaller projects into a potential program</li> </ul>

SOURCE: Effective Competitive Procurement and Financing with Innovative Contracting: The Solution to Transportation Infrastructure Construction, Operations and Maintenance in the 21st Century, by Sergio L. Gonzalez Quevedo, PhD, PE

- HTA currently operates as an in-house infrastructure developer and has 1,283 employees.
- HTA's headcount has not reduced commensurately with the reduction in construction investment. From 2004 to 2017, the compound annual growth rate of construction investment has declined by 10% while headcount has only declined by 4%.
- Outsourcing and a workforce transition will therefore align headcount with construction spend; aiding the transition to a lean, contract management organization. The transformed organization will have fewer internal staff and will provide opportunities for cost-effective outsourcing of various functions.
- By outsourcing key functions, HTA:
  - Obtains efficiencies to allow for an effective program management
  - Can adjust the organization to adequate size and provides flexibility to adjust resources to achieve future CIP or projects
  - Enhances functions and services to effectively meet best practices and updated requirements
- Historically, HTA's experience with outsourcing has been positive. Outsourcing has resulted in improved road conditions as well as reduced construction project duration and cost overruns, as demonstrated with HTA's experience with PR-22, and PR-66.
- HTA's operational transformation relies on the successful implementation of the workforce transition program.
- HTA must meet the FOMB's 15% Commonwealth wide personnel cost reduction target during the 6 year Fiscal Plan period. The method HTA chooses to reach these targets is still being developed, but the target will be enforced through PROMESA's budgetary approval process. The target may be met with further reduction in personnel, not from other areas of expenditure.
- HTA has already begun taking steps to comply with a Memorandum of Understanding ("MOU")<sup>1</sup> with the FHWA. The MOU's goals overlap with HTA's transformation to a contract manager from an in-house developer. Under the MOU, HTA is working to, among other things, streamline the project billing process, project delivery process, and contracting procedures. See Appendix for further discussion on the MOU initiatives.
- HTA will also capture pension savings related to the reform of the Employees Retirement System as detailed in the New Commonwealth Fiscal Plan dated April 2018 (see next page)

<sup>1</sup> MOU signed by the government of Puerto Rico and Federal Highway Administration  
Source: Signed Memorandum of Understanding MOU-PR2016-02-29-094734

# Applying CW-wide pension reduction target of 10% yields \$13.2M in savings over the next 6 years

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\$M

	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY18-23 Total</u>
Construction - PayGo	13.5	13.3	13.3	13.3	13.3	13.3	80.2
Construction - non-PayGo	5.3	5.3	5.3	5.3	5.3	5.3	31.7
Non-Construction PayGo	4.4	4.4	4.4	4.4	4.4	4.4	26.2
Non-Construction non-PayGo	10.3	10.2	10.2	10.2	10.2	10.2	61.1
Baseline pension contributions	<b>33.6</b>	<b>33.1</b>	<b>33.1</b>	<b>33.1</b>	<b>33.1</b>	<b>33.1</b>	<b>199.2</b>
Savings (10%)			(3.3)	(3.3)	(3.3)	(3.3)	(13.2)
Post-reduction pension contributions	<b>33.6</b>	<b>33.1</b>	<b>29.8</b>	<b>29.8</b>	<b>29.8</b>	<b>29.8</b>	<b>186.0</b>

\$ '000s

	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY18-23</u> <u>Total</u>
Xmas bonus reduction savings (construction)	-	407	331	284	261	239	1,522
Xmas bonus reduction savings (non-construction)	-	349	254	194	168	141	1,106
<b>Total</b>	<b>-</b>	<b>756</b>	<b>585</b>	<b>478</b>	<b>430</b>	<b>379</b>	<b>2,628</b>

## Background

- HTA's operating budget includes major, long-term operating contracts, including those supporting transit, design and construction, and other long-term outsourced functions
- Many HTA contracts operate on longstanding contracts which have been extended or modified and are currently overpriced due to:
  - Not reflecting HTA's current operating environment
  - Including fuel costs from earlier eras in which fuel costs were much higher
  - Pricing in risk of non-payment
- HTA is developing systems to support performance management metrics
  - HTA is developing integrated Traffic Management Center reporting system (Sunguide) in collaboration with the Southwest Research Institute (SwRI)
  - HTA's Performance Management Information System (PMIS) will go live by the beginning of FY19, with additional modules coming online by Dec. 2019. HTA will utilize this system to support improved metrics collection, reporting and management, including:
    - Highway safety (accident and fatality rates)
    - Transit usage
    - Signal Conditions
- Contracts in many cases exceed cost benchmarks from reputable national data sets, past procurements, and other performance metrics

## Proposed Changes

- In accordance with HTA's status under Title III of PROMESA, the terms of individual contracts, and changes in cost drivers including fuel, HTA has sufficient leverage to request improved terms from contracting partners, or recomplete outdated contracts through solicitation.
- As HTA's financial operations improve in accordance with MOU requirements and this Fiscal Plan, HTA will strengthen the case for reduced cost of risk
- HTA will re-compete contracts and negotiate with vendors to improve contract terms to reflect current circumstances



## Background

### ■ Law 211

- The article 211-2015 “Pre-Retirement Voluntary Program Act” is a retirement incentive program that was passed on December 28, 2015.
- To qualify for the Law 211 incentive program, HTA employees had to be less than 61 years old and have a minimum of 20 years of service
- Employees who met the criteria and chose to participate would receive 60% of base salary (average of the 3 highest salaries)
- 162 HTA employees chose to participate in this retirement incentive program: Group A: 131 participants; Group B: 31 participants
- Program participants' employment ended with HTA on June 30, 2017 (the end of FY17) and therefore the only additional ongoing cost related to those employees was the amount they were owed under the retirement incentive program parameters
- The savings to HTA is the difference between those payments and the ongoing salary and benefits that HTA would have paid those employees had they remained employed at HTA

### ■ Early Termination Incentive Program

- The Early Termination Program was initiated in February 2018 with 14 participants enrolled for termination from HTA as of 2/28/18 (deadline to enter the program is 3/15/18)
- Each participant will receive full base salary until June 30, 2018 in addition to health insurance, at a cost of \$100 / participant
- As of June 30, 2018 HTA will not incur any additional Early Termination program costs

## Proposed Changes

- No further changes needed: HTA executed this retirement incentive plan as of June 30, 2017
- Since July 1, 2017, HTA has been receiving salary and benefits savings from Law 211 program
- As of July 1, 2018, HTA starts benefiting from the Early Termination program

## Analysis of Opportunity

## Voluntary Exit Programs

	Group A	Group B	Total	
Law 211 participants	131	31	162	[A.1]
Early Termination Incentive Program	14	-	14	[A.2]
Average salary at time of retirement	44,548	44,548		[B]
Average benefits at time of retirement	17,151	17,151		[C]
Average salary + benefits	\$61,699	\$61,699		[D] = [B] + [C]
<b>Total cost per year at time of retirement</b>	<b>\$8,946,413</b>	<b>\$1,912,681</b>	<b>\$10,859,095</b>	[E] = ([A.1]+[A.2]) * [D]
<b>Total cost (FY18 - FY23)</b>			<b>\$65,154,568</b>	[F] = [E] * 6
less: payouts to Law 211 participants			\$38,160,471	[G]
less: payouts to Early Termination Incentive Program			\$260,448	[H]
<b>Savings from voluntary exit measure</b>			<b>\$26,733,649</b>	[I] = [F] - [G] - [H]

[A.1]: Per participant list from HTA's finance team [A.2]: Per participant list from HTA's finance team

[B]: Average salary of 131 Group A participants - assumed same for other participants

[C]: Applying a 38.5% benefit factor based on FY18's relative ratio of benefits / salary

[D]: Calculation

[E]: Calculation [F]: Calculation

[G]: Based on detailed payout schedule provided by HTA's finance team

[H]: 14 Participants \* 5 months of base salary (until June 30th 2018) plus 5 months of health insurance at \$100/participant/month

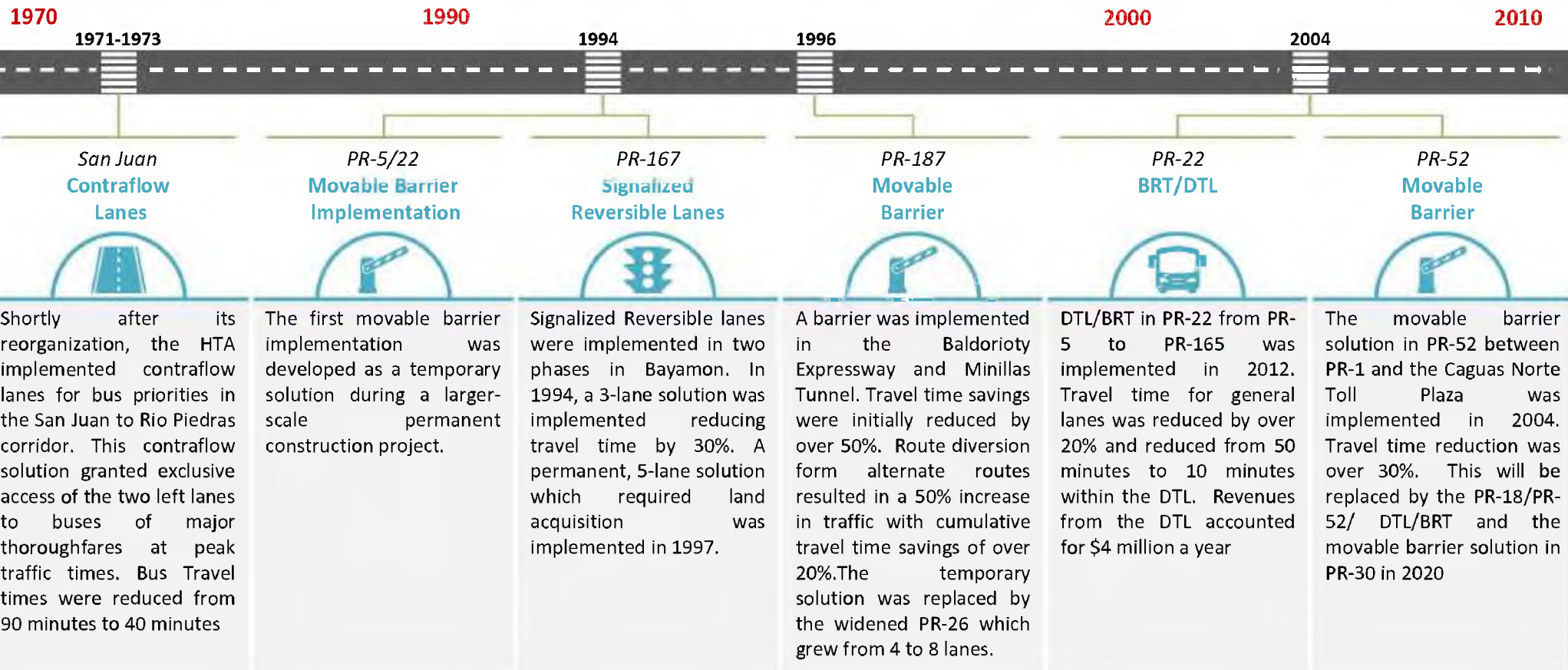
[I]: Calculation

## Implementation timeline and expected annual savings

Savings from Voluntary Exit Programs, FY18-FY23 (\$ in millions)



- Since its reorganization in the early 1970s, HTA has committed itself to traffic reduction through new infrastructure projects. Specifically, HTA has been an innovator in the utilization of contraflow lanes, reversible lanes, and movable barriers for congestion relief.
- HTA has implemented various temporary solutions in situations when long-term construction would take too long, and permanent, flexible solutions where the latter have been necessary. For example:



# San Juan incurs annual congestion costs of ~\$165M, with traffic spread across key highways and local 'hot spots'

## Congestion map of San Juan by delay and road type

Line width denotes amount of total delay hours along route



- San Juan incurs daily delays of ~54,000 hours on average, with an hour of delay valued at \$9.1<sup>1</sup>
- Assuming 260 working days, and 75% congestion levels on non-working days, congestion cost is ~\$165M annually
- 52% of the delay is concentrated on 26% of roads in downtown San Juan (including feeders), with a delay intensity of 264 hours/ mile compared to 193 hours/mile on average for minor road and arterials
- Highways contribute to 37% of the delay, despite being only 17% of the road length
- The 23 miles of inner highways in San Juan are a particular traffic reduction target: 10 congested miles with 399 delay hours per mile

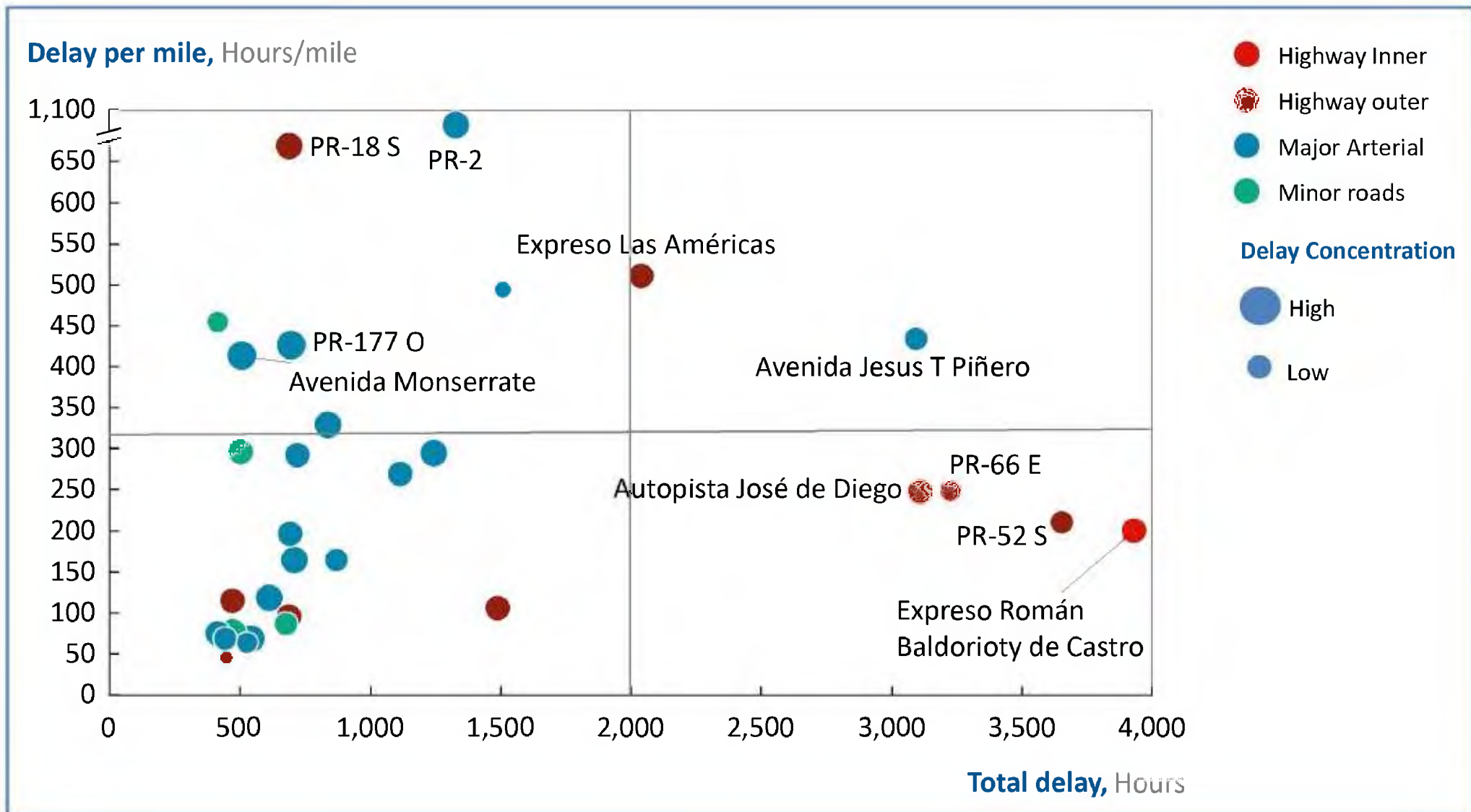
- Highway - outer
- Highway - inner
- Major arterial
- Minor roads

<sup>1</sup> Assuming that an hour of excess fuel costs \$2.1 at vehicle fuel economy of 24.7, with traffic speed of 18 miles / hour during congestion, and assuming that value of time is half the median hourly wage (\$14)



# Top target routes for traffic reduction include major highways such as PR-52, PR-66, and PR-18

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# 13 HTA will implement high benefit-to-cost ratio solutions to manage traffic and positively impact economic recovery

Non-Recurring		<ul style="list-style-type: none"> <li>Improve efficiency of incident clearing by integrating services with Police and EMS on major roadways (e.g., PR-52 and PR-66 Traffic Management Centers – see following slides for details)</li> <li>Facilitate expedited incident clearance (towing, patch and debris clearing) in high traffic corridors (e.g., PR-18/26/30/52 Highway Service Patrol – see following slides for details)</li> </ul>
		<ul style="list-style-type: none"> <li>Further Develop HTA’s capability to provide real-time traveler information to major roadways in the San Juan – Caguas – Gurabo corridor, including:               <ul style="list-style-type: none"> <li>Install Additional Intelligent Transportation Systems (ITS) field devices which allow HTA to provide real time information to the traveling public (e.g., PR-26 ITS – see following slides for details)</li> <li>Utilize real-time data to provide roadside messaging and alerts to the traveling public</li> <li>Support enhanced performance management through traffic data consolidation and analysis, and utilize congestion data to inform future capital investments</li> </ul> </li> <li>Improve traveler alert capabilities with the inauguration of HTA’s traffic management center and improvement of integrated capabilities (e.g., PR-52 and PR-66 Traffic Management Centers – see following slides for details)</li> </ul>
Recurring		<ul style="list-style-type: none"> <li>Invest in improvements to traffic signaling hardware and software (e.g., PR-52/18/30/1 intersection modernization – see following slides for details)</li> <li>Invest in building additional assets such as viaducts and tunnels to reduce congestion, and implement dynamic tolling at these intersections to generate own-source revenues (e.g., San Antonio tunnel – see following slides for details)</li> <li>Consider the expansion of lane control and dynamic merge control to ease traffic during commuting hours, construction projects, and for special events w/ use of reversible lanes.</li> <li>Explore use of Active Traffic Management, including variable speed limits, shoulder use, and dynamic restrictions to improve efficiency of current highway networks (e.g., DTL lane on PR-52 BRT project – see following slides for details)</li> </ul>
		<ul style="list-style-type: none"> <li>Optimize toll collection systems to improve traffic flow on major toll roads, increase compliance and improve revenue capture.</li> <li>Reduce reliance on toll plazas in favor of overhead tolling, decreasing labor costs and improving rate of travel</li> </ul>
		<ul style="list-style-type: none"> <li>Expand transit coverage by creating BRT systems and increasing feeder links to HTA (e.g., BRT line from Caguas to the TU Centro Medico Station – see following slides for details)</li> </ul>

HTA continues to invest in traffic reduction through innovative technology and key infrastructure investments. HTA recognizes that effective traffic reduction will contribute to Puerto Rico's economic recovery.

HTA prioritizes traffic reduction within Capital Improvement Programs based on cost/benefit analysis which include economic impact on a project-specific basis, but has not conducted the econometric studies required to estimate impact on the Island's overall GNP.



**PR-52 Traffic Management Center**

#### **Estimated Completion**

#### **Collect incident and traveler information and marshal resources to manage congestion**

- Facility will house EMS, Police of P.R., PRHTA – Traffic Management and Freeway Operations, and Public Services Center
- Center will continue data collection practices in place since Jan 2016
- 100% Federally Funded

**Dec. 2018**

#### **Facilitate quicker responses to incidents**

- Facility will house EMS, PRHTA, Police of P.R., and Public Services
- 100% Federally Funded

**Oct. 2018**

#### **Expedite resolution of roadway incidents safely**

- Implementation limited by independent contractors and regulatory issues
- Phase 1 started April 2017; Phase 2 (for PR-1/2/20) underway

**May 2018**



### Reduce congestion in major intersection in Caguas, enable public transportation and lane capacity management through variable toll rates

- \$148 M total investment in traffic reduction, funded with regular Federal funds. An Infrastructure for Rebuilding America (INFRA) discretionary grant of \$118M is currently pending. HTA is not currently considering this grant in its baseline projections, but if the grant is received it would allow for redirection of resources to other projects.
- The DTL project facilitates PR-52 Bus Rapid Transit Implementation
- Phases I-III (PR-52/18/1) Replaces and improves Reversible Contraflow Lane Replacement providing two lanes with shoulders up to PR-18.
- Phases III-V (PR-52/30/1) Bridge Construction (connecting PR-52 and PR-30) for congestion management lanes, facilitating seamless transfer from highway to high-traffic surfaceroad.

Estimated  
Completion

Dec. 2019  
(Phase I-III)

Oct. 2020  
(Phase III-V)

### PR-26 ITS Devices and Traveler Information

### Install Intelligent Transportation System(ITS) Devices to gather traveler information

- Closed Circuit Television (CCTV) cameras; Bluetooth (travel time and origin/destination); Microwave Vehicle Detection Systems (MVDS) (speed and volume); Fiber Optics; and Dynamic Message Signs (DMS) (traveler communication) – a first in Puerto Rico

Nov. 2018

### Congestion Management Completion Timeline (select initiatives)



## Optimizing Existing Infrastructure – Planned Signal System Investments (included in baseline)

- HTA's network of nearly 1,300 intersection traffic signals can enable reductions in travel time, vehicle operations costs, accidents, and emissions. However, the system is currently in a state of disrepair:
  - Signals Damaged or Destroyed by Hurricanes
  - Regular repairs and system maintenance deferred
  - Insufficient intersection timing investments
  - Interrupted network connectivity
- Without a consistent signal maintenance, repair, and operations program, the network is ineffective, and often counter-productive
- HTA is reinvesting in its signal systems infrastructure with both capital investments, and a dedicated signal management program to reclaim the signal grid as an asset for traffic reduction, including:
  - Emergency Repairs
  - Annual Maintenance
  - Restoring network connectivity to 833 signals

### Opex

#### Signal Optimization Program Operating Expenditures (\$,millions)

Year	Intersection Timing	Maint.	Comms	Total
FY18	0.0	0.0	0.0	0.0
FY19	3.2	1.0	0.5	4.7
FY20	0.0	1.0	0.5	1.6
FY21	0.0	1.1	0.5	1.6
FY22	0.0	1.1	0.5	1.6
FY23	0.0	1.1	0.5	1.6
	<b>\$3.20</b>	<b>\$5.31</b>	<b>\$2.60</b>	<b>\$11.1</b>

### Capex

#### Signal Optimization Program Capital Expenditures (\$,millions)

Year	Emergency Repair	Maint.	Total
FY18	6.8	13.3	20.1
FY19	17.8	13.3	31.1
FY20	2.0	13.3	15.3
FY21	0.0	13.3	13.3
FY22	0.0	13.3	13.3
FY23	0.0	13.3	13.3
	<b>\$26.55</b>	<b>\$79.97</b>	<b>\$106.5</b>

Total Improvements to  
Signaling Systems:

**\$117.6M** in Fiscal Plan  
Period (included in  
baseline)

Specific estimates of surface grid traffic across the 1,300 intersections included in this effort are not currently collected. However, HTA expects the economic impact of these improvements to be very high.



- HTA recognizes that congestion in the San Juan metropolitan area exceeds many major metropolitan areas, and negatively impacts quality of life, and economic productivity in the region.
- HTA continues to prioritize projects to maximize economic impacts - both those with direct benefits to HTA and also to the Commonwealth more generally - associated with traffic reduction, including travel time, vehicle operating costs, accidents, and emissions.

### Annual Economic Impact of Traffic Reduction Projects

	PR-52 Intersection Modernization	PR-26 Information Traveler Systems	Traffic Mgt. Centers And Service Patrol	Total
Annual Person-Hours Saved	3.2	0.2	0.7	4.1
Itemized Inputs (mil. \$)				
Travel Time Savings	\$21.1	\$1.3	\$4.7	<b>\$27.1</b>
Veh. Op. Cost Savings	\$18.4	\$0.4	\$1.5	<b>\$20.3</b>
Accident Cost Savings	\$5.9	\$0.4	\$1.3	<b>\$7.6</b>
Emission Cost Savings	\$2.5	\$0.2	\$0.6	<b>\$3.2</b>
<b>TOTAL BENEFITS</b>	<b>\$47.8</b>	<b>\$2.3</b>	<b>\$8.1</b>	<b>\$58.2</b>

PR52 estimates based on Metric Engineering Cost-Benefit Analysis Study, general assumptions of ~\$7 per lost hour in traffic (half of median wage) and excess fuel costs of \$2.1 at vehicle fuel economy of 24.7, with traffic speed of 18 MPH.



## Background

- HTA places traffic reduction as a priority within its Capital Improvement Plan, targeting reductions in travel time, emissions, and congestion-related accidents. Some priority CIP projects can support revenue generation.
- HTA currently operates the Caguas-to-San Juan stretch of PR-52 as a toll road on a flat fee basis.
- HTA has received \$175M in FTA project funding to support develop Bus Rapid Transit (BRT) lanes, and construction is scheduled to begin in FY18, and complete in FY20.
- HTA will establish a workday Bus Rapid Transit (BRT) line from Caguas to the TU Centro Medico station in accordance with the HTA agreement, providing a more-convenient option for reaching the TU system, offsetting roughly 39% of the BRT operating costs.
- The new BRT lanes, restricted from traffic during peak commuting hours to allow efficient travel for BRT buses, present the opportunity to provide congestion relief while generating additional revenue.

## Proposed Changes

- HTA will operate the Bus Rapid Transit Systems operating at an estimated 39% farebox recovery ratio, exceeding local bus operation standards, and supporting ridership growth for Tren Urbano.
- HTA will implement Dynamic Toll Lanes within the PR-52 Caguas BRT corridor to provide congestion relief, while generating additional toll revenue.
- In accordance with CIP, HTA will implement phased construction of 7 viaducts and 1 tunnel to reduce congestion, and will implement dynamic tolling at these intersections to generate own-source revenues.

## Analysis of Opportunity

### Revenue Generating Traffic Reduction

#### PR 52 - BRT, DTL, DTL Viaducts - Combined (\$, millions)

	Bus Rapid Transit			DTL	Viaduct	Total
Year	Exp.	Rev.	Net	Rev.	Rev.	
FY18	0	0	0	0	0	0
FY19	0	0	0	0	0	0
FY20	0	0	0	0	0	0
FY21	-0.6	0.3	-0.3	2.8	0	2.4
FY22	-1.3	0.5	-0.8	5.6	0.3	5
FY23	-1.3	0.5	-0.8	5.8	0.6	5.6
Total	-3.2	1.3	-1.9	14.2	0.9	13.1

- Operating expenditures for BRT (contracted operation with ATI vendor) begin in 2021 at \$1.3 million per year (with a half year in 2021)
- DTL implementation follows BRT, with partial revenue in 2021
- \$175 million in PR52 total capital costs are being invested in FY19-22, funded entirely with federal funding (FTA)
- Phased implementation of 7 viaducts and the San Antonio tunnel is included in HTA's Fiscal Plan, with a total of \$249M in local funds

BRT revenue of \$2 per-person with 1.1k estimated riders on 220 work days per year.

DTL/BRT optimized scenario based on SDG feasibility study.

Viaduct revenue estimates are preliminary engineering estimates, and there exists an opportunity for potential savings and congestion reduction.

Ridership impact on TU not estimated due to bus-to-TU transfer policy.

### Implementation timeline and expected annual savings

Net Revenue Traffic Reduction, FY18-FY23 (\$ in millions)



- Currently, HTA operates and performs CapEx for the toll roads PR-20, PR-52, PR-53 and PR-66.
- HTA continues to analyze options for how to efficiently operate the toll roads, including: 1) complete outsourcing of toll operations and hiring of a contract manager, 2) A PR-22/PR-5 style concession with an upfront payment, and 3) a concession with no upfront payment and a 40-year share of revenues (broken out into two 20-year contracts).
- Preliminary analysis using a basic NPV model reveals a wide disparity of valuations between these options depending on a variety of assumptions, including: toll rates; financing costs (including costs of equity and debt and debt/equity ratios; opex assumptions; competitive environment for bidding; recapitalization costs; terms of concession, etc.
- HTA will explore different structures of concessions while simultaneously implementing the outsourcing model. Built in flexibility will be used in outsourcing so that the contracts can be transferred to concessions in case an adequate concession model is developed.
- Implementation of concessions requires additional third party analytical and advisory support based on a two year schedule and has an estimated cost of \$5M. Savings associated with outsourcing can be implemented even more quickly. This \$5M cost is reflected within the fiscal measures for FY19 and FY20 of the Fiscal Plan as HTA explores its concession options.



Private-sector participation could bring about **innovation in O&M such as the use of advanced technology**, e.g., weight-in motion systems to ensure cost-effective and foolproof O&M, since the concessions are **typically long-term agreements which incentivize operators** to use technology.

## Reduction in toll violations



Private players have the **incentive to minimize toll violations** as it directly impacts their own cash flows, and could **build on the toll collection optimization measures** in the Fiscal Plan (see previous slides on Toll Collection Optimization measure)

Concessions can help generate upfront capital for the government, and can help **create bandwidth in the government to focus more on developing greenfield projects**.

A variety of concession structures, such as a revenue share agreement, could potentially achieve similar efficiencies as a single lump sum concession depending on precise deal terms, including the use of proceeds



Many institutional investors, such as pension funds, insurance funds and sovereign wealth funds, are increasingly investing in infrastructure assets as:

- Such investments **match their long-term investment horizon** and help them hedge against inflation.
- Since these toll roads are operational, there is **lesser risk** in investing in these assets compared to greenfield projects.

Case:17-03283-LTS Doc#:18798-2 Filed:10/27/21 Entered:10/27/21 03:06:16 Desc: Exhibit DRA Exhibit 237 Page 82 of 115

## 14 HTA is committed to analyzing the concession opportunity for its existing toll roads, and implementing results, by 2020

- |   |  |   |
|---|--|---|
| <ul style="list-style-type: none"><li>▪ Identify assets, including PR-52</li><li>▪ Evaluate different potential deal structures using a variety of scenarios within Fiscal Plan constraints</li><li>▪ Determine the socio-economic impact of different potential structures</li></ul> | <ul style="list-style-type: none"><li>▪ Model capital costs and resource needs of implementing different PPP scenarios</li><li>▪ Understand necessary initial and ongoing investments</li><li>▪ Conduct “value for money” analysis</li></ul> | <ul style="list-style-type: none"><li>▪ Value concessions based on projected cash flows, growth, and potential deal terms considering Fiscal Plan financial constraints</li></ul> |
|---|--|---|



HTA expects that the specific cost transformation opportunities identified within this plan account for the vast majority of cost reduction opportunities currently available, however HTA will continue to explore innovative ways to reduce costs, including:

	Assess post-transformation workforce and contracting model, and identify areas for improvement and savings.
	Associate workload drivers with each remaining FTE and develop zero-based staffing model to justify positions, hours, and overtime. Improve controls to reduce excess hours and eliminate overlapping positions.
	Identify opportunities to consolidate purchasing across categories and use collaborative purchasing to leverage market power to pursue discounted prices from vendors not yet addressed through contract re-bid and optimization. Improve controls over operating contracts to improve collection of contractor and concessionaire penalties.
	Continue efforts begun in compliance with MOU requirements to develop best-in-class internal controls over contracting, employee expenses, and other categories of operating expenses not yet optimized within fiscal measures.
Optimize Construction Value Chain	<p>Along with the MOU initiatives, HTA plans to identify opportunities to optimize the construction process (which would also be complemented by workforce transition and organizational structure initiatives). These include:</p> <ul style="list-style-type: none"><li>• Pre-construction: Develop standardized decision tree to apply to the project bidding process in order to maximize competition among pre-qualified bidders. Develop best practices for contracting, such as standard term sheets to ensure consistent delivery.</li><li>• Construction: Identify detailed short term and long term construction projects that should be outsourced to third party experts.</li><li>• Quality assurance: Develop a quality assurance plan which includes standard procedures on appropriately adding incentive clauses to contracts in order to ensure contractors' goals are aligned with HTA's goals.</li></ul>

## VI. LIQUIDITY SITUATION

# 13-Week Cash Flow Projection

Actual (Act.) / Projected (Fcst.): (\$000's) Week Ended:	Fcst. 6-Jul	Fcst. 13-Jul	Fcst. 20-Jul	Fcst. 27-Jul	Fcst. 3-Aug	Fcst. 10-Aug	Fcst. 17-Aug	Fcst. 24-Aug	Fcst. 31-Aug	Fcst. 7-Sep	Fcst. 14-Sep	Fcst. 21-Sep	Fcst. 28-Sep
<b>Operating Receipts</b>													
1 Toll Fares	-	5,266	2,635	1,925	-	4,256	2,400	2,972	-	882	4,127	1,692	2,719
2 Transit Revenues A	-	-	-	-	-	-	-	-	-	-	-	-	-
3 Electronic Toll Fines	692	601	601	585	464	3,811	2,149	2,661	-	651	609	546	571
4 Other Income	92	12	56	23	85	210	40	32	126	90	284	196	21
<b>5 Total Operating Receipts</b>	<b>784</b>	<b>5,879</b>	<b>3,292</b>	<b>2,533</b>	<b>549</b>	<b>8,277</b>	<b>4,589</b>	<b>5,665</b>	<b>126</b>	<b>1,624</b>	<b>5,021</b>	<b>2,434</b>	<b>3,311</b>
<b>Intra-Government Receipts</b>													
6 Transfer from Government of PR	-	-	-	8,108	-	-	-	-	8,108	-	-	-	8,108
7 Special State Grant	-	-	-	-	-	-	-	-	-	-	-	-	-
8 PR Gov. Infrastructure Funding	-	-	-	6,839	-	-	-	-	6,839	-	-	-	6,839
<b>9 Total Intra-Government Receipts</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>14,947</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>14,947</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>14,947</b>
<b>Other Receipts [Separate Federal Transfers by Program]</b>													
10 Federal Aid - FHWA & Earmarked Projects	-	-	-	27,685	-	-	-	-	36,498	-	-	-	36,578
11 Federal Aid - FTA	-	-	-	1,600	-	-	-	-	1,673	-	-	-	1,673
12 Emergency Reconstruction Program	-	-	-	17,329	-	-	-	-	17,329	-	-	-	22,460
<b>13 Total Other Receipts B</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>46,613</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>55,499</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>60,711</b>
<b>14 Total Receipts</b>	<b>784</b>	<b>5,879</b>	<b>3,292</b>	<b>64,093</b>	<b>549</b>	<b>8,277</b>	<b>4,589</b>	<b>5,665</b>	<b>70,573</b>	<b>1,624</b>	<b>5,021</b>	<b>2,434</b>	<b>78,969</b>
<b>Operating Disbursements</b>													
15 Payroll & Related Costs	1,852	2,102	4,072	1,429	1,843	738	12,029	5,560	4,376	1,801	4,930	2,821	3,936
16 Retirement Contributions (PayGo)	-	-	-	2,759	-	-	-	-	2,759	-	-	-	2,759
17 Christmas Bonus	-	-	-	-	-	-	-	-	-	-	-	-	-
18 Payments for Facilities and Public Services	-	-	-	1,167	-	-	-	-	1,167	-	-	-	1,167
19 Purchased Services	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753	1,753
20 Donations, Subsidies and Distributions	53	-	-	536	278	-	-	11	649	-	-	-	533
21 Transportation Expenses	29	33	65	23	29	12	191	88	69	29	78	45	62
22 Professional Services	-	-	-	2,841	-	-	-	-	2,020	-	-	-	2,590
23 Other Operating Disbursements	-	2,220	4	15	9	5	1,712	154	154	154	154	154	154
24 Advertisements	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>25 Total Operating Disbursements</b>	<b>3,694</b>	<b>6,109</b>	<b>5,894</b>	<b>10,524</b>	<b>3,912</b>	<b>2,508</b>	<b>15,685</b>	<b>7,567</b>	<b>12,948</b>	<b>3,737</b>	<b>6,916</b>	<b>4,773</b>	<b>12,955</b>
<b>Capex Disbursements</b>													
26 Capital Expenditures - Federal	-	-	-	30,605	-	-	-	-	39,418	-	-	-	39,418
27 Capital Expenditures - State	-	-	-	6,839	-	-	-	-	6,839	-	-	-	6,839
28 Emergency Reconstruction Program	-	-	-	17,329	-	-	-	-	17,329	-	-	-	22,460
<b>29 Total Disbursements</b>	<b>3,694</b>	<b>6,109</b>	<b>5,894</b>	<b>65,296</b>	<b>3,912</b>	<b>2,508</b>	<b>15,685</b>	<b>7,567</b>	<b>76,533</b>	<b>3,737</b>	<b>6,916</b>	<b>4,773</b>	<b>81,672</b>
<b>30 Net Cash Flow</b>	<b>(2,910)</b>	<b>(230)</b>	<b>(2,602)</b>	<b>(1,203)</b>	<b>(3,364)</b>	<b>5,769</b>	<b>(11,095)</b>	<b>(1,902)</b>	<b>(5,961)</b>	<b>(2,114)</b>	<b>(1,896)</b>	<b>(2,339)</b>	<b>(2,703)</b>
<b>Starting Cash Balance</b>	<b>261,062</b>	<b>258,152</b>	<b>257,922</b>	<b>255,320</b>	<b>254,117</b>	<b>250,754</b>	<b>256,523</b>	<b>245,428</b>	<b>243,525</b>	<b>237,565</b>	<b>235,451</b>	<b>233,555</b>	<b>231,216</b>
<b>Closing Cash Balance</b>	<b>258,152</b>	<b>257,922</b>	<b>255,320</b>	<b>254,117</b>	<b>250,754</b>	<b>256,523</b>	<b>245,428</b>	<b>243,525</b>	<b>237,565</b>	<b>235,451</b>	<b>233,555</b>	<b>231,216</b>	<b>228,513</b>

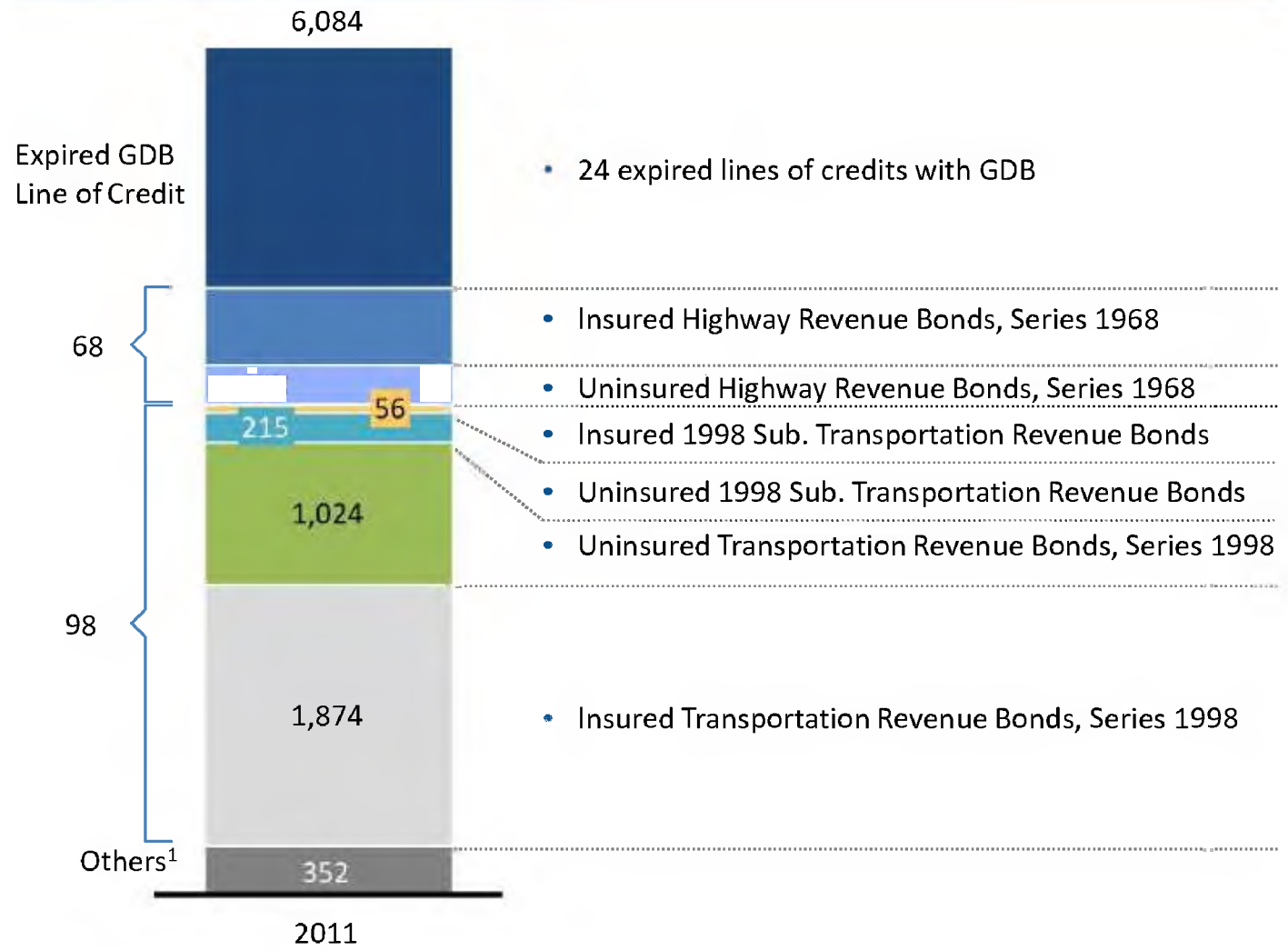
# 13-Week Cash Flow Assumptions

Line item	Methodology
1	Estimated tolls are based on Aug, and Jan-May (non-hurricane impacted months) monthly toll collections in FY18, projected on a monthly basis using historical budget distribution, and on a weekly basis using FY18 cash flow actuals distribution (based on week of month).
2	These revenues are used as a credit in Tren Urbano operating expenses invoice (ACI).
3	Estimated toll fines are based on Aug, and Jan-May (non-hurricane impacted months) monthly toll collections in FY18, projected on a monthly basis using historical budget distribution, and on a weekly basis using FY18 cash flow actuals distribution (based on week of month).
4	Estimated based on FY18 weekly actuals excluding sale of assets.
6	FY19 Central Government Transfers (\$97.3M) in accordance with April 20th Certified Fiscal Plan.
7	None expected in FY19.
8	Based on Milestone 4 - Appendix 5A - Other Sources (Capex).
10	Based on Milestone 4 - Appendix 5A - FHWA and Earmarked Projects. Includes \$50M TU - Transit CIP funding.
11	Reflects \$20M Tren Urbano operating grant, distributed according to Milestone 4 - Appendix 5A monthly breakdown. No expected carryover impact from FY18.
12	Based on Milestone 4 - Submission 5-A - ER Federal Repair Program and Hurricane Loss Assessment.
15	Includes \$22M in incentive plan costs for 8/17 - 9/28, frontloaded in August. Also includes \$13.7M in cost savings spread evenly throughout the year after FTE reductions occur (post-September).
16	Reflects total bill of \$33,113,174.80 per latest actuarial estimate received from Treasury.
17	Based on Milestone 4 - Appendix 11A - calculation is based on headcount and minimum amount of hours (700 hours), paid out the week before Christmas.
18	Estimated based on FY17 and 18 historicals (without back payments). Includes TU electricity and \$2M increase for higher anticipated utility costs.
19	Based on annualized FY18 Actuals-to-Date (as of 6/8/2018), plus outsourcing costs. Reduced by \$2.64M (for entire year) to reflect successful contract negotiation.
20	Based on CY2018 TD actuals (through 6/8/2018), annualized for remainder of FY19.
21	Extrapolated as a constant percentage of FY18 Payroll costs.
22	Based on PRHTA's professional services schedule in its certified Fiscal Plan.
23	Based on annualized FY18 Actuals-to-Date (as of 6/8/2018) plus implementation costs,, less overhead savings.
26	Based on Milestone 4 - Appendix 5A - includes Federal Construction Program and Tren Urbano - Transit CIP.
27	Based on Milestone 4 - Appendix 5A - Other Sources (Capex).
28	Based on Milestone 4 - Appendix 5A - includes Hurricane Loss Assessment and ER Repair Federal Program.

## VII. DEBT SUSTAINABILITY



Current debt structure, USD millions



1 Outstanding bond estimates as of Fiscal Year End 2017 based on a Bloomberg data extract. 1 Other Includes: \$200MM in Variable Rate Bonds, \$57MM in CPI based interest-rate bonds, \$.7MM in LIBOR based interest rate bonds maturing through 2045, \$93MM in Capital Appreciation Bonds maturing through 2026. DGB line of debt based on HTA management estimates.

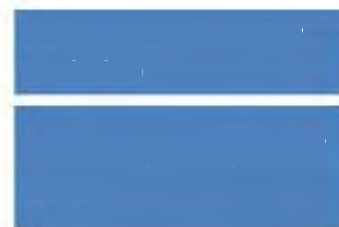
# Debt Sustainability post-measures

USD millions

- HTA has had insufficient cash flows to service its debt, and entered Title III in May 2017. It has not made payments since July 2017
- However, post the expected HTA allocation from the Commonwealth CAPX Fund, transfer from Government of PR, and the incremental positive cash flows of fiscal plan measures, HTA will have \$401 M cash flow as a surplus available through the Fiscal Plan Period for strategic projects and / or debt service.

	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY18-FY23 total</u>
Toll Revenues Including federal Funds	1,239	1,575	1,338	1,026	940	945	7,062
Retained Revenues to Central Government	(535)	(547)	(548)	(550)	(552)	(554)	(3,286)
<b>Revenues net of Retained Revenues</b>	<b>704</b>	<b>1,029</b>	<b>789</b>	<b>476</b>	<b>388</b>	<b>391</b>	<b>3,776</b>
Total operating and CIP expenses	(827)	(1,136)	(875)	(690)	(629)	(629)	(4,785)
Transfer from Government of PR	138	97	74	222	238	225	995
<b>Cash Flow available (pre-measures)</b>	<b>15</b>	<b>(10)</b>	<b>(11)</b>	<b>8</b>	<b>(3)</b>	<b>(14)</b>	<b>(14)</b>
Total Measures	7	33	55	88	108	123	415
<b>Cash Flow available (post-measures)</b>	<b>22</b>	<b>24</b>	<b>43</b>	<b>97</b>	<b>105</b>	<b>110</b>	<b>401</b>

- The following matrix illustrates, for varying coupon levels and primary surplus, or net revenue, figures, the amount of restructured HTA debt that could be supported by that surplus level.
- The matrix assumes a 30-year, level debt service payment structure and only one-time coverage of net revenues to debt service.



4.0%  
5.0%  
6.0%

Values in USD millions

## Sensitivity Analysis: Implied Debt Capacity at 1.0x Coverage

	<u>\$25</u>	<u>\$50</u>	<u>\$75</u>	<u>\$100</u>
4.0%	\$432	\$865	\$1,297	\$1,729
5.0%	\$384	\$769	\$1,153	\$1,537
6.0%	\$344	\$688	\$1,032	\$1,376

## VIII. IMPLEMENTATION PLAN

# Our goal is to transform HTA into a best-in-class infrastructure developer and operator

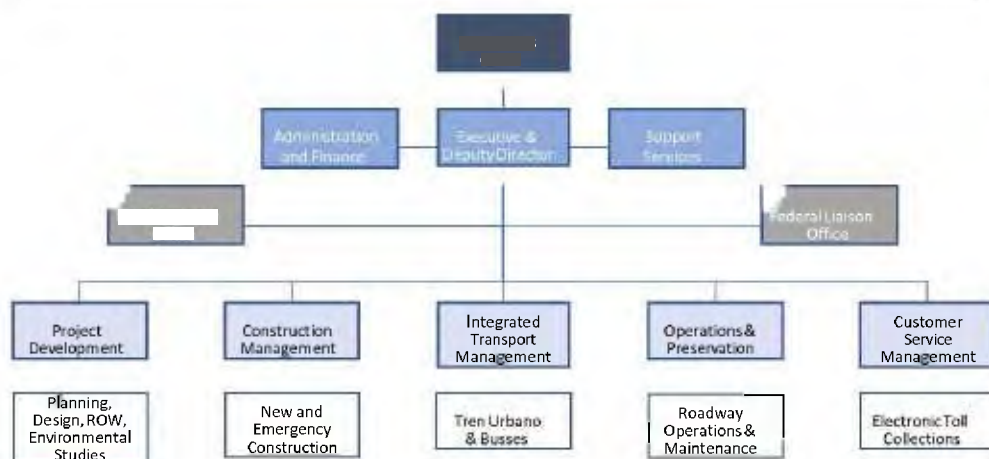
As previously mentioned, PRHTA is responsible of constructing, operating, and maintaining Puerto Rico's toll road network, major highways and mass transportation facilities. To properly meet its duty, the measures in this plan follow two main philosophies:

## 1. Transform the organization structure in order to gain synergies and position it for future effectiveness

Organize HTA into a world class infrastructure developer and operator moving it towards a contract management model, such as it is currently done today for design, land acquisition, construction and mass transit operations. HTA would manage third party contracts engaged through competitive bidding for each service required.

### HTA envisioned structure

*For illustration purposes only*



- Competitiveness will be maintained by constantly evaluating current contracts and its performance and re-bidding to keep contracts costs and performance in-line with market expectations.

## 2. Streamline project execution and management by engaging the best resources available

Establish best-in-class project delivery process to assure federal compliance and efficiently deployment of resources available to maximize the infrastructure developed and maintained.

### Project Delivery Phases



- The streamlined process will be complemented by having the adequately sized resources, visibility of important metrics to allow for accurate and timely decision making, as well as the correct people with the right motivators and capabilities.
- Project delivery methods will include Value Engineering analysis and
  - innovative contract approaches early in the planning phase to maximize the value of each project.
- Skilled teams in the management of design and construction activities will assure to meet objectives of reducing average change orders from 30% to 15%.<sup>2</sup>

1 Case study of PR-18 & PR-66 procurement approach to be used as guideline for applicable projects.

2 Federal funded projects budget allows for a maximum of 15% increase to projects

## Structure

- **Specialized roads and transit authority** with enhanced governance, expert leaders, and a mission to sustainably improve roads and infrastructure
- **Lean entity to efficiently and sustainably deliver roads and infrastructure mission** without internal rigidities

- **Optimized toll roads** with socio-economic and environmental impact of tolling and pricing considered
- **Real estate assets identified & monetization options considered** to provide cash flows for reinvestment
- **Federal funds maximized**, existing and future transit projects optimized to achieve higher fair box recovery
- **Concessions considered for all optimized assets** including as an implementation mechanism that maintains adequate funding for the integrated highway network

- **Scale workforce to meet current needs, and pursue cost-effective outsourcing, and margin optimization** to right-size opex and generate cashflows
- **Optimized** construction value chain, renegotiated operating contracts, and outsourced project-specific functions



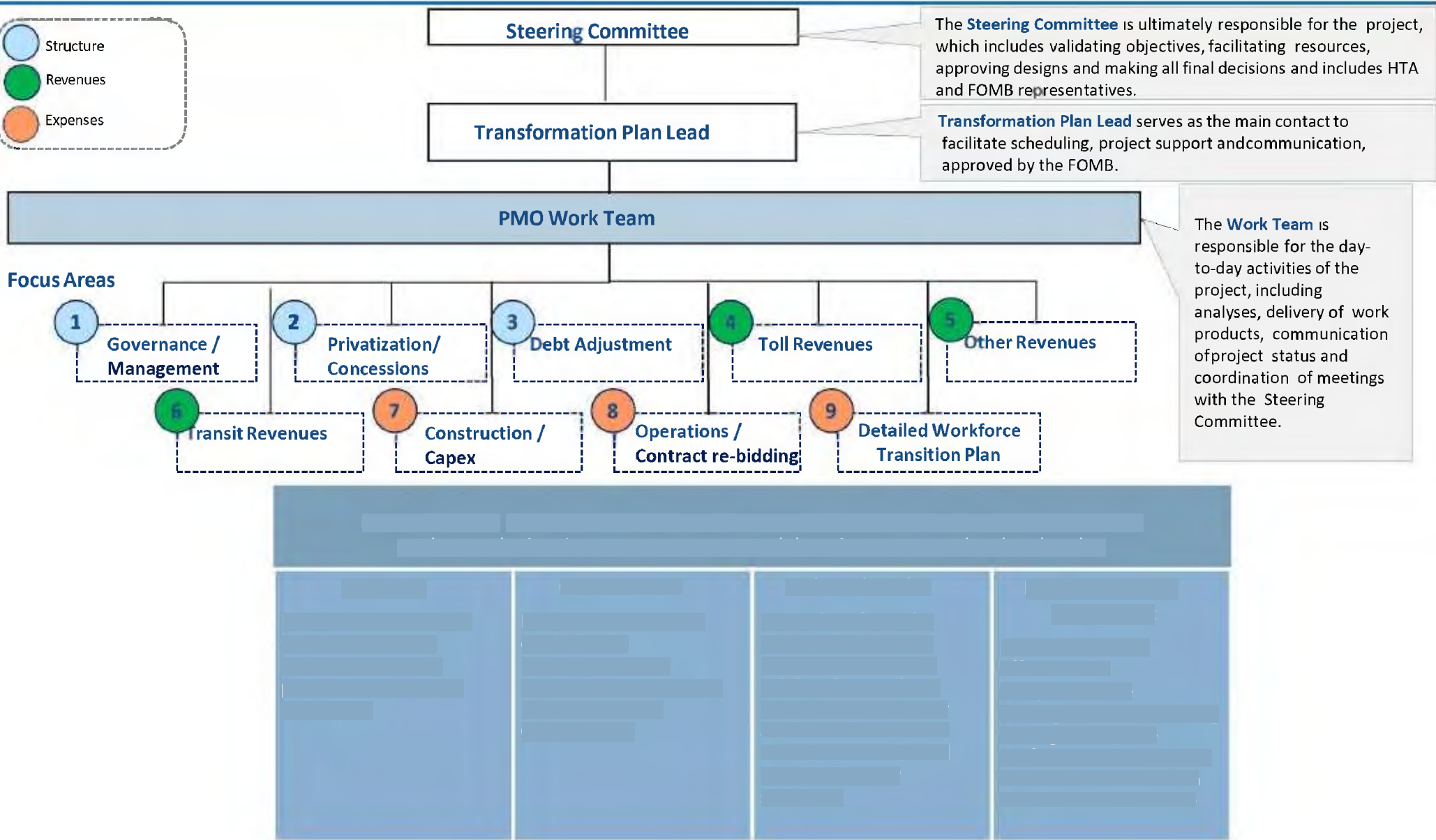
# Pursue guiding principles to address the financial gap and re-focus HTA towards its objectives

- Transform HTA into an organization in which resources are aligned to critical objectives and scale appropriately to available resources and planned investments.
- Engage best resources efficiently to move HTA agenda forward in a fiscally sustainable manner.
- Demonstrate capacity to implement reconstruction capex, STIP, and CIP
- Clear implementation plans, with milestones and metrics monitoring progress of all fiscal measures and structural reforms
- Transformation office with stakeholder representation and clear ownership and leadership structures defined
- Focus infrastructure program on maintaining and improving existing road systems and mitigating congestion
- Implement data-driven process for project selection and prioritization based on asset condition, and safety
- Embrace best-in-class approaches for traffic reduction (see previous slides on traffic reduction (measure 11))
- Maximize deployment of federal funds and utilize toll credits to receive highest-possible federal share
- Obtain a sustainable debt structure to allow for provision of services and realistic economic growth infrastructure
- Evaluate new funding structures used in other jurisdictions
- Streamline project delivery and improve project times from planning to completion through better project management, innovative contracting (e.g., CHICA, ratings/bonuses), and contract structures (passing risk)
- Maintain compliance with FHWA MOU and demonstrate improved project performance management
- Improve internal controls and integrate lessons learned into ongoing and new projects
- Establish a zero-based budget approach and develop the tools and culture required to sustain it
- Implement procurement process reform to improve timeliness, accountability, and cost-control
- Maintain strong communication with FHWA & FTA, and move HTA forward towards full federal compliance
- Communicate Fiscal Plan to federal agencies and work together towards sustainable solutions
- Engage proactively with FHWA & FTA to re-position HTA's as a first-class federal grantee and infrastructure developer

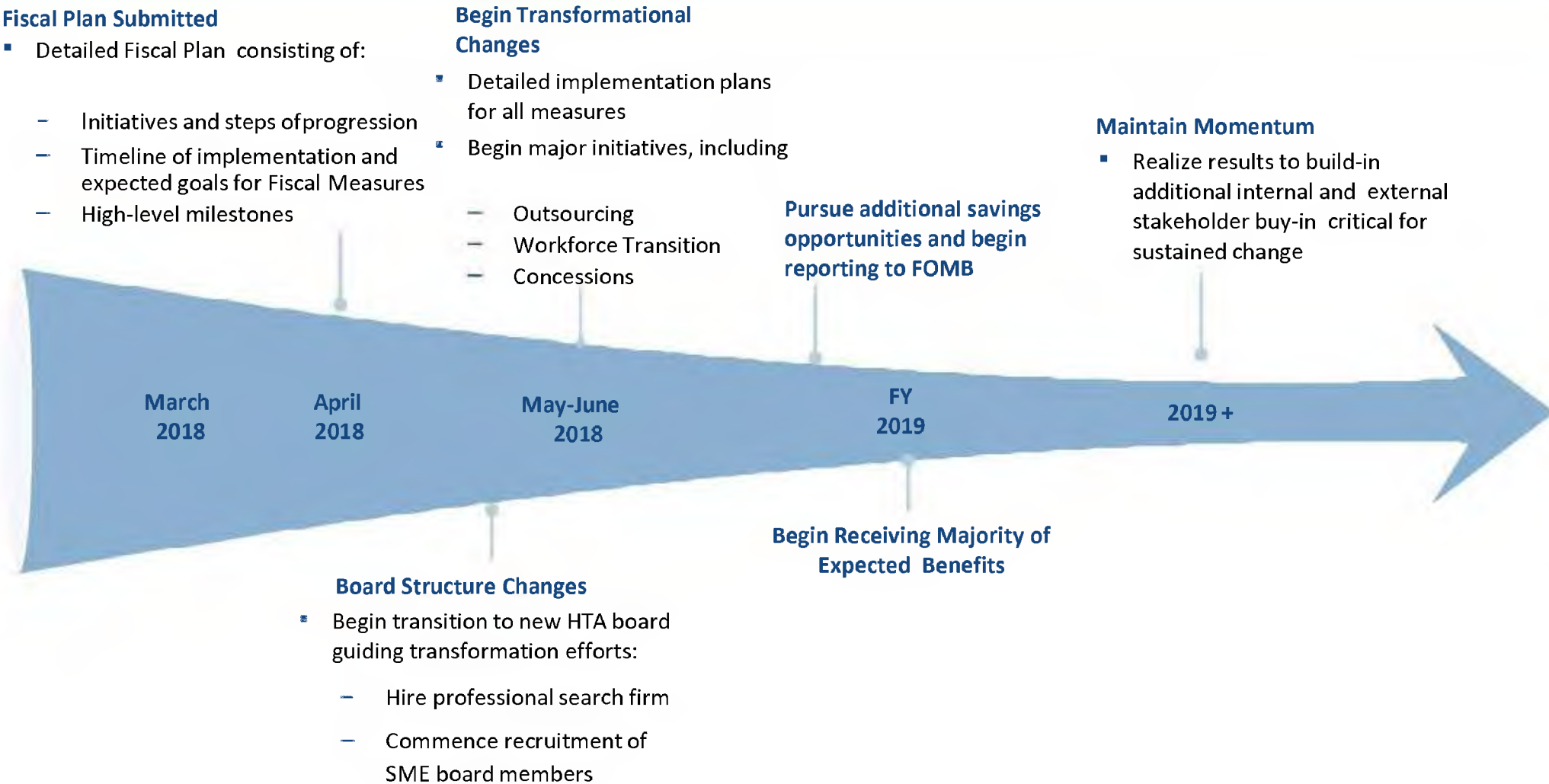
1 CHICA contracts are hybrid contracts with contingencies and acceleration clauses

# Transformation Implementation Structure

## Organizing for Results

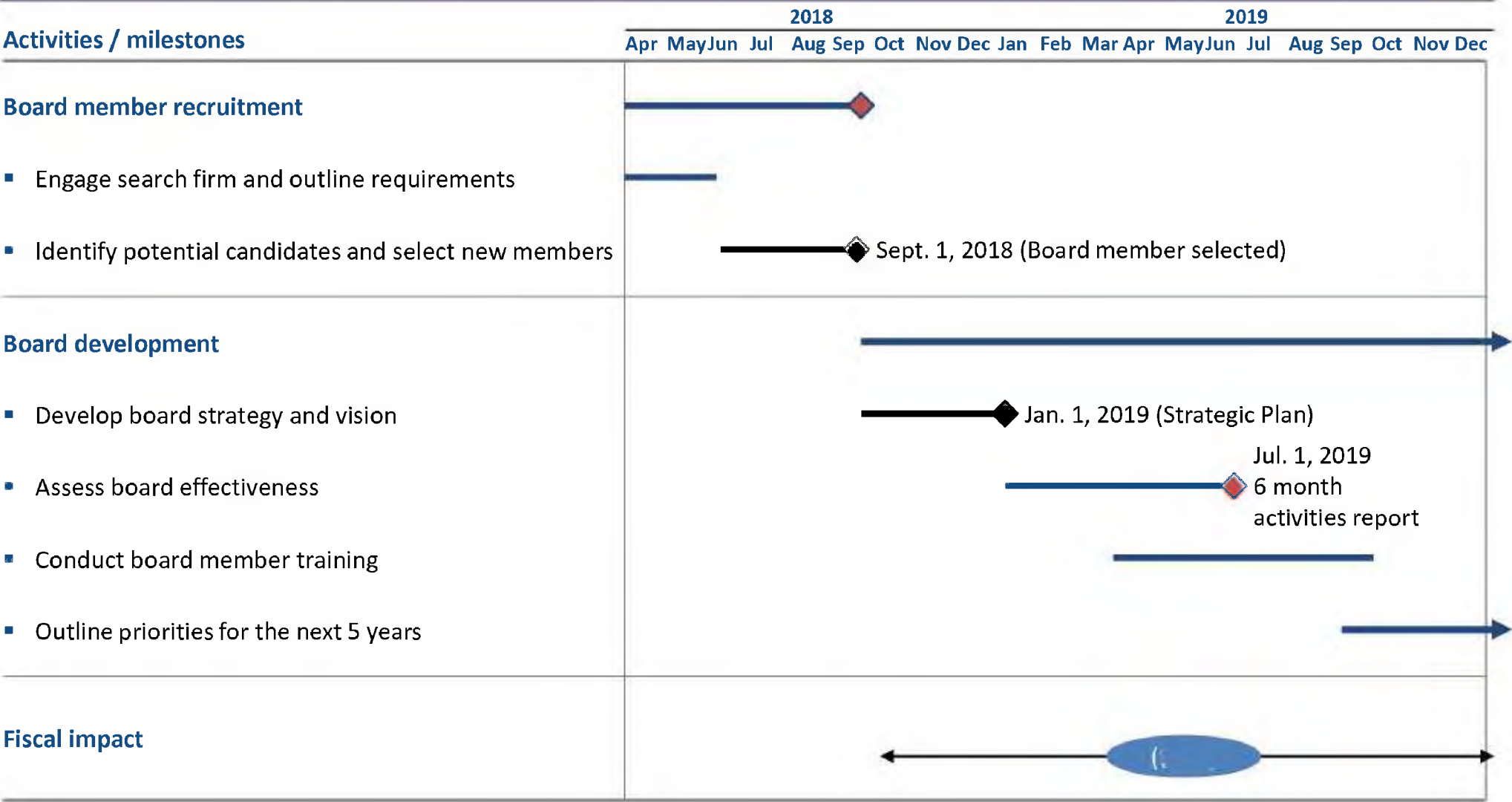


# Summary Timeline



Implementation Milestone Fiscal impact

## Board establishment implementation

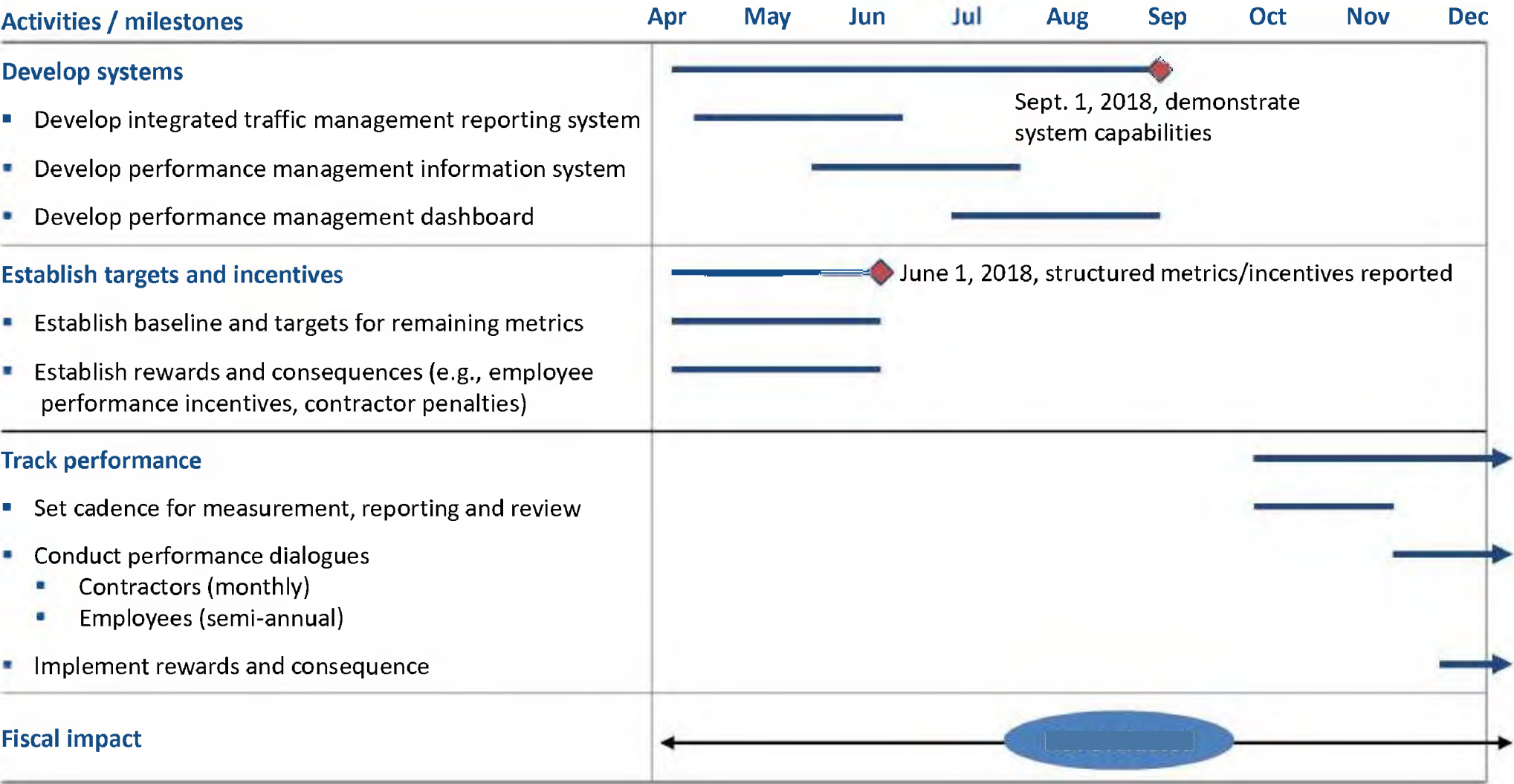


1 \$0.5M in costs effective from FY19 onwards. 6-year impact of \$2,5M.

# Rollout organizational KPIs – Implementation plan

Implementation Milestone XX Fiscal impact

## Organizational KPIs implementation

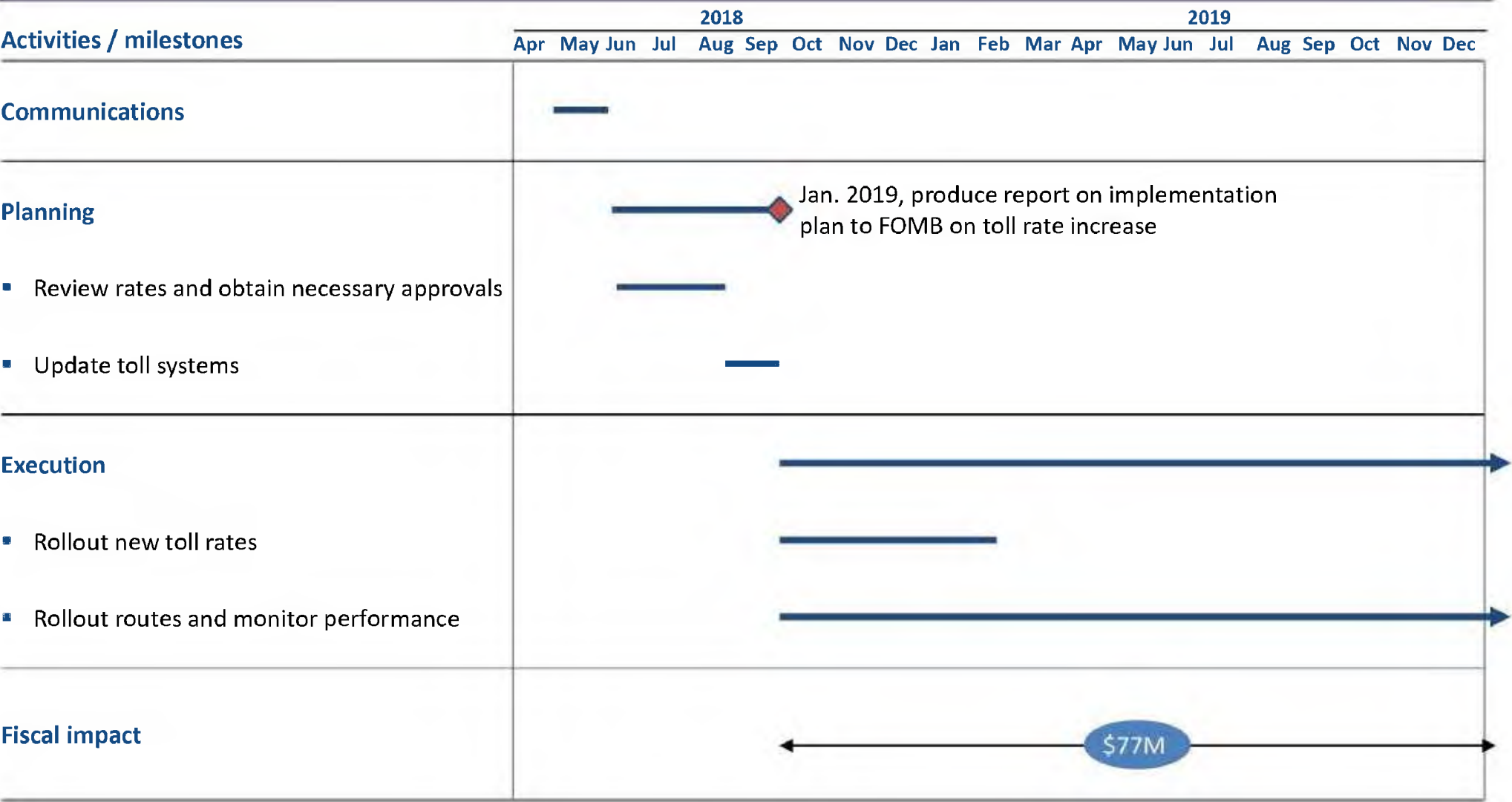




# Increase toll rates – implementation plan

Implementation Milestone Fiscal impact

## Tolling implementation

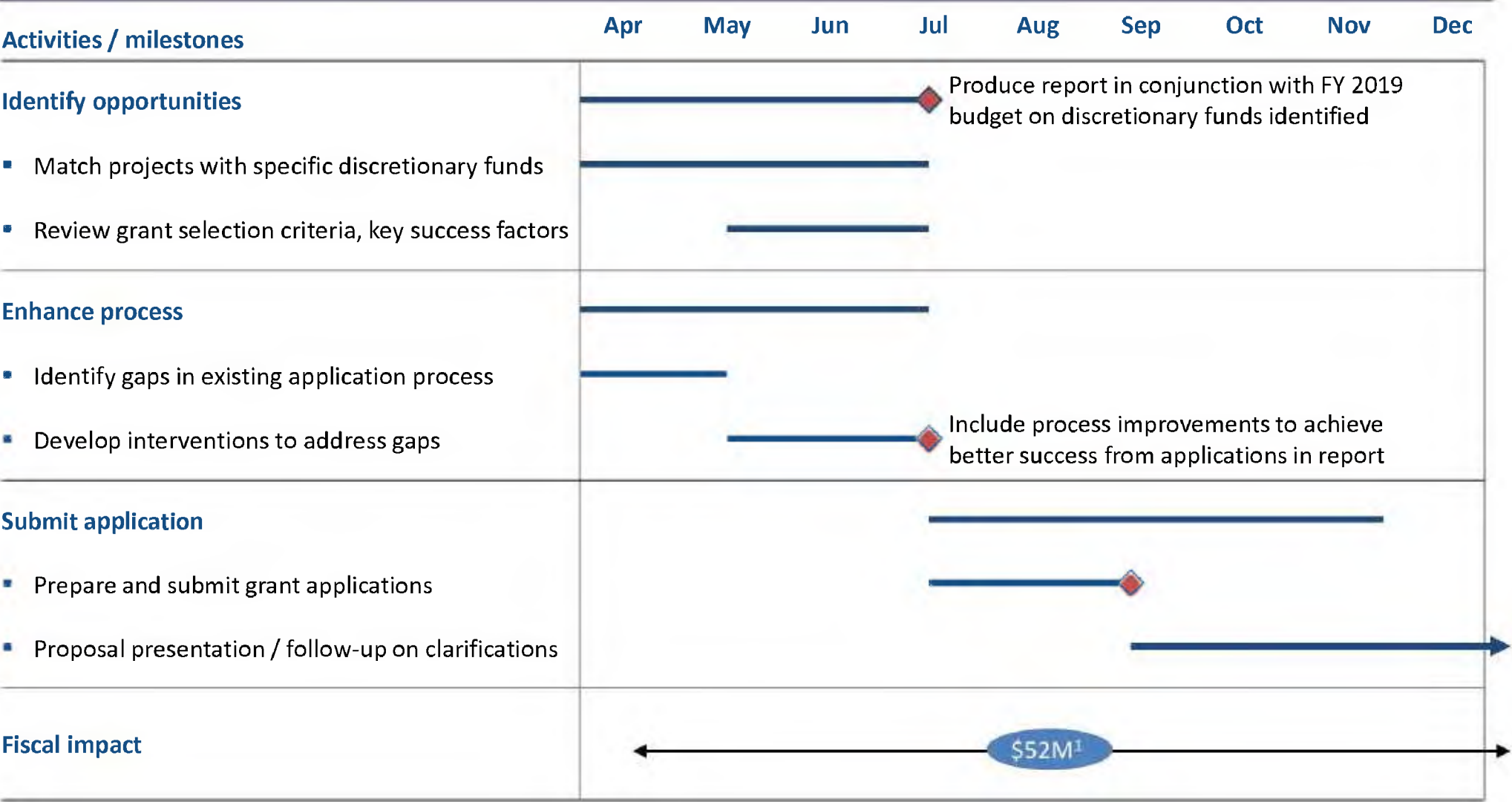


1 Increases to take place every effective from FY18 onwards (linked to CPI). Total 6-year impact of \$77M.

# Increase federal discretionary funds – implementation plan

Implementation Milestone XX Fiscal impact

## Discretionary funds implementation

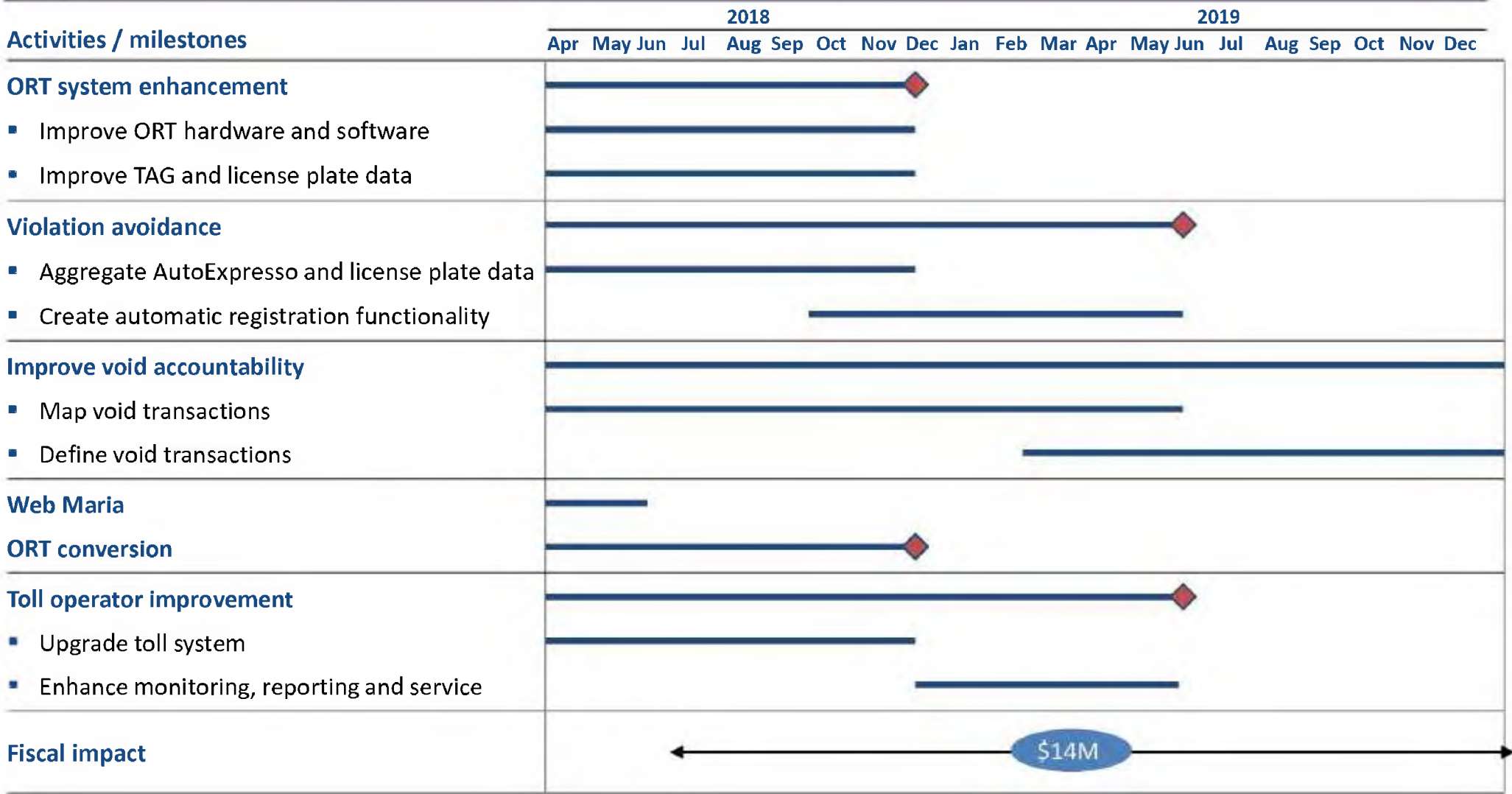


1 \$4M in FY19, \$8M in FY20, \$11M in FY21 and \$15M in FY22 onwards. \$52M over the next 6 years.

# Toll optimization – Implementation plan

Implementation Milestone Fiscal impact

## Toll optimization implementation



1 Declining impact due to one-off Web Maria impact in FY18 (\$3.5M). Run-rate of \$6.3M in FY23, with total 6-year impact of \$14.1M.

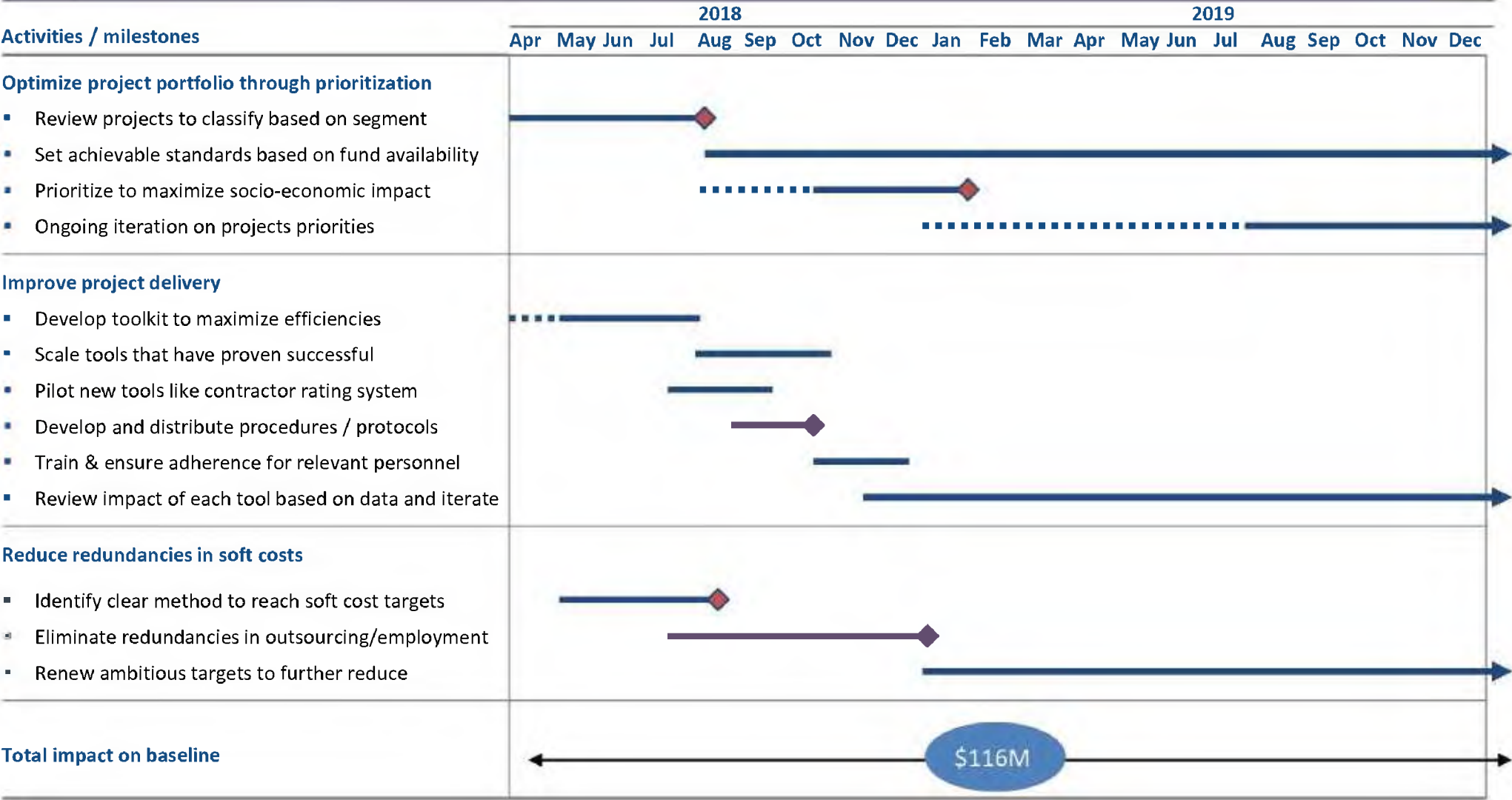
Ancillary revenue implementation

Activities / milestones	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<div>Identify opportunities</div> <div><div>Identify physical locations for ancillary opportunities</div><div>Develop physical infrastructure<div>(e.g., retail space, billboards, parking)</div></div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
<div>Develop value proposition</div> <div><div>Benchmark and establish rates for ancillary services</div><div>Seek any necessary federal waivers or exemptions<div>(e.g., rest stop commercialization, broadband)</div></div><div>Identify and develop physical facilities<div>(e.g., retail space, park and ride facilities)</div></div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
<div>Award concessions</div> <div><div>Develop and launch RFP</div><div>Evaluate and shortlist vendors</div><div>Negotiate terms and conditions / award concession</div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
<div>Fiscal impact</div>	<div></div> <div>\$11M</div> <div></div>								

# Capital expenditure optimization implementation plan

Implementation Milestone Fiscal impact

## Capex optimization implementation

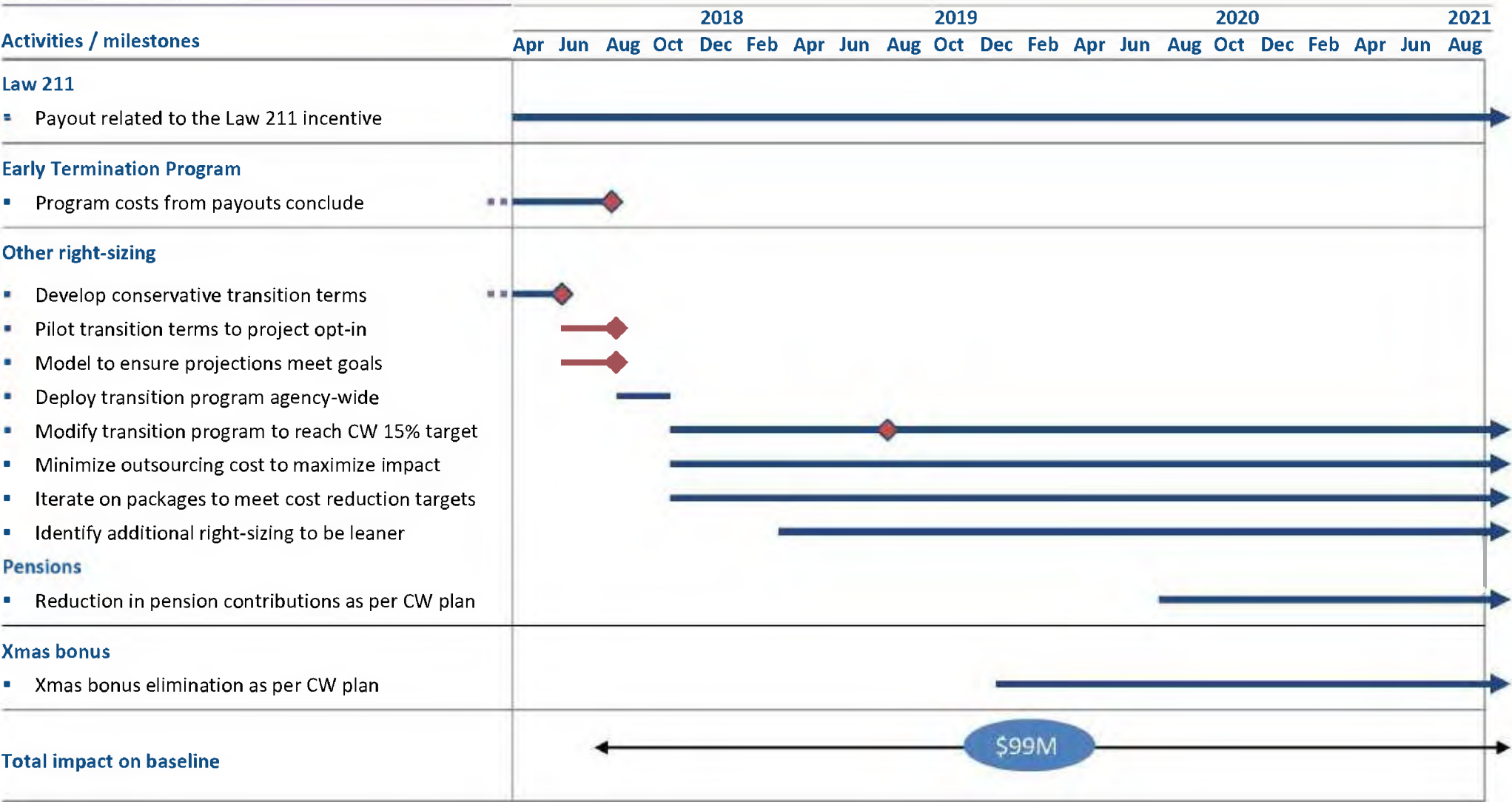




# Right-sizing, early exits, outsourcing, pensions and Christmas bonus - implementation plan

Implementation Milestone XX Fiscal impact

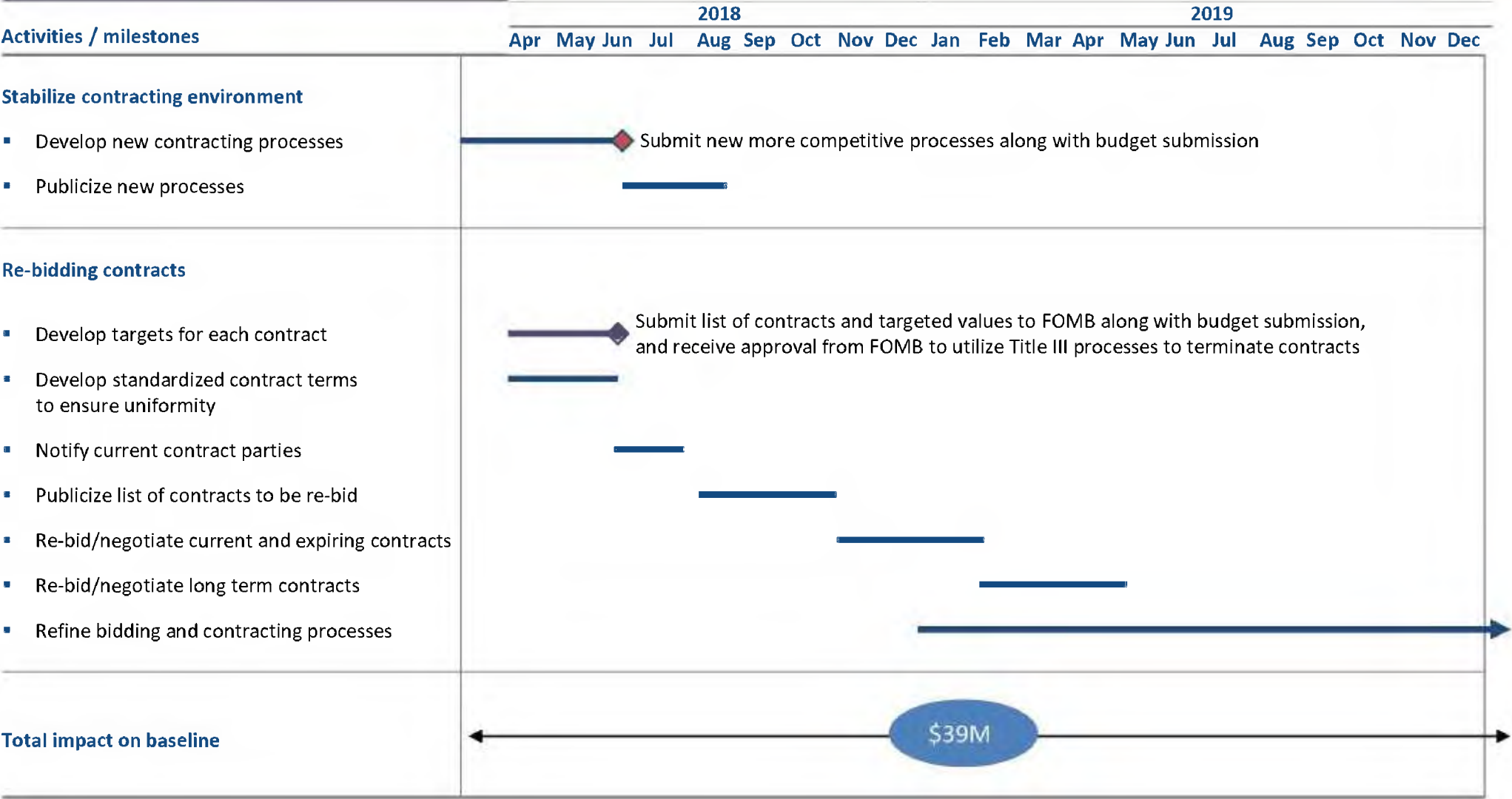
## Right-sizing implementation



# Operating contract re-bidding and optimization

Implementation Milestone XX Fiscal impact

## Operating contract re-bid



Implementation Milestone Fiscal impact

Traffic Reduction implementation

Activities / milestones

Operationalize BRT

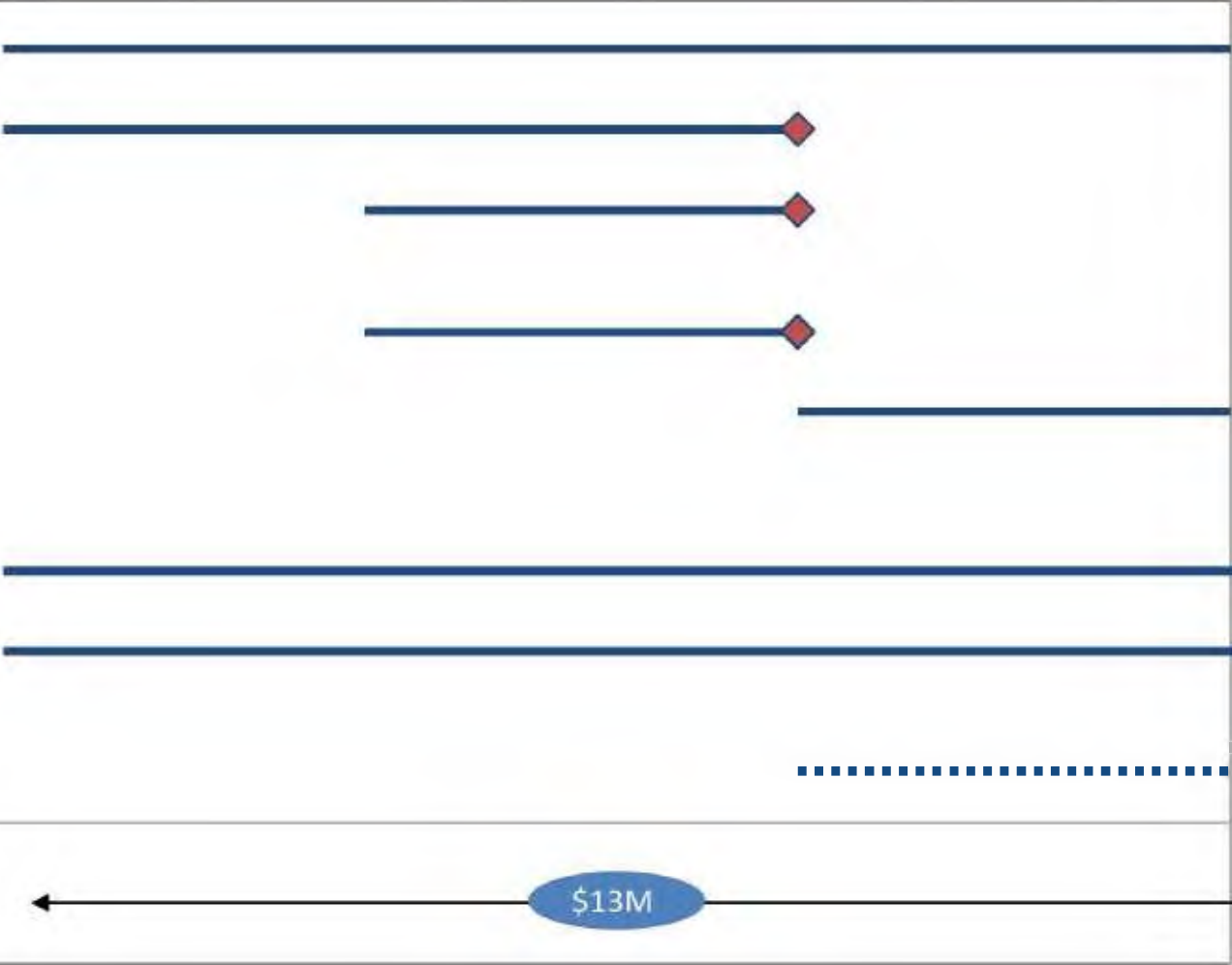
- Complete BRT Lanes
- Repurpose bus fleet and modify bus contract
- Approve bus pricing schedule
- Operationalize bus operations

Operationalize DTL and viaducts

- Implement DTLs on PR-52
- Construction of viaducts and San Antonio tunnel
- Implement DTL on viaducts

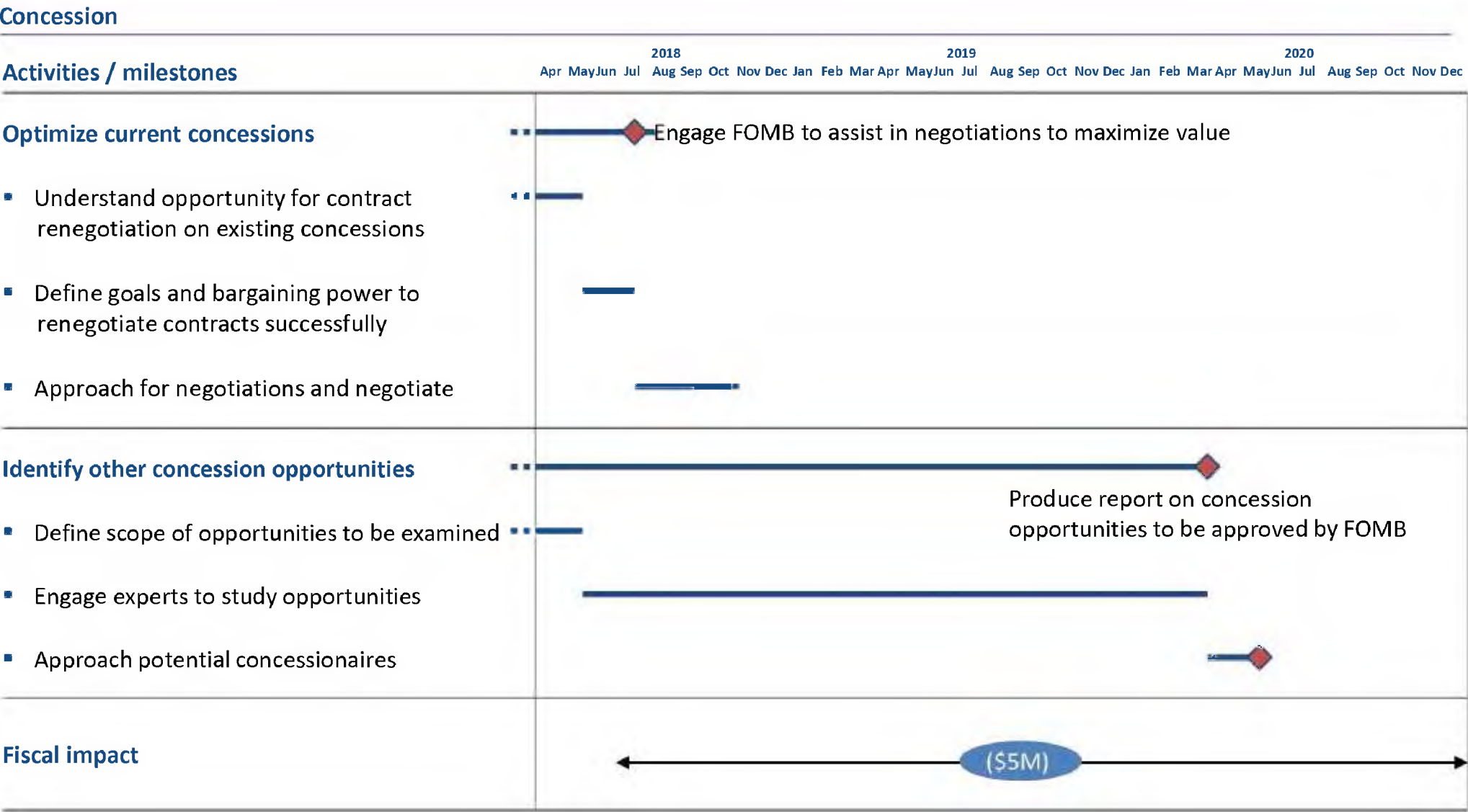
Fiscal impact

2018 2019 2020  
Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec



1 Cost of \$0.4M in FY21 and \$0.8M in FY22 onwards. Total 6-year impact of (\$2.0M)

Implementation Milestone Fiscal impact



1 Cost of \$0.4M in FY21 and \$0.8M in FY22 onwards. Total 6-year impact of (\$2.0M)

# Post-certification reporting

## Financial Reporting

Report type	Detail	FOMB reporting cadence	Public reporting
<b>Budget to actuals</b>	<ul style="list-style-type: none"> <li>Tracking budgeted to actual cash flow per budget certification agreements with FOMB package, including:                             <ul style="list-style-type: none"> <li>Explanation for material variances (&gt;10% and &gt;\$1 million or &gt;\$10 million)</li> <li>Material delays (&gt;1 quarter) in project planning and delivery cost allocations based on STIP/CIP implementation schedule</li> <li>Revenues and additional funding procured in excess (&gt;10%) of budgeted amounts</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Monthly reporting of headline inflows and outflows including variances, delivery delays, and additional funding</li> </ul>	<ul style="list-style-type: none"> <li>Monthly reporting of headline inflows and outflows including variances, delivery delays, and additional funding</li> </ul>
<b>Liquidity</b>	<ul style="list-style-type: none"> <li>13-week cash flow report including:                             <ul style="list-style-type: none"> <li>Accounts payable and accounts receivable roll-forwards</li> <li>12 common weeks analysis to track material changes</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Monthly post-certification</li> </ul>	<ul style="list-style-type: none"> <li>Monthly post-certification</li> </ul>
<b>Initiatives</b>	<ul style="list-style-type: none"> <li>Refine high-level implementation plans for measures and submit within three months</li> <li>Track planned vs. actual expenditure / savings on fiscal measures</li> </ul>	<ul style="list-style-type: none"> <li>Final implementation plans to be submitted three months post certification</li> <li>Monthly post-certification</li> </ul>	<ul style="list-style-type: none"> <li>Monthly post-certification</li> </ul>

1 Implementation plan development and progress towards the post-certification reporting requirements will be supervised and monitored by the FOMB.



# Post-certification reporting

## Governance, revenues, and expenses

Report type	Detail (refer to initial implementation plans <sup>1</sup> )	FOMB reporting cadence	Public reporting
<b>Governance and performance management</b>	<ul style="list-style-type: none"> <li>Identify elements of corporate governance report e.g., compensation, articles of association, board meetings, and set reporting cadence</li> <li>Develop metrics, targets, and incentives system for organization wide KPIs</li> <li>Develop system to track and enforce metrics</li> </ul>	<ul style="list-style-type: none"> <li>Monthly reporting of KPIs</li> <li>Bi-Annual reporting of corporate governance</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly reporting of KPIs</li> <li>Bi-Annual reporting of corporate governance</li> </ul>
<b>Revenues</b>	<ul style="list-style-type: none"> <li>Identify project list and targeted amount and source of discretionary funds for each</li> <li>Identify sources and timing of ancillary revenue opportunities</li> <li>Finalize schedule of rates and corresponding revenue projections for toll increases</li> <li>Develop monthly revenue DTL and viaduct targets by toll lane / viaduct</li> </ul>	<ul style="list-style-type: none"> <li>Monthly reporting on toll collections</li> <li>Quarterly reporting on discretionary funding and ancillary revenues</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly reporting of toll collections, discretionary funding and ancillary revenues</li> </ul>
<b>Operating expenses and capital expenses</b>	<ul style="list-style-type: none"> <li>Develop monthly targets for capex savings by lever, line item and project (where possible)</li> <li>Translate annual rightsizing measures into monthly targets by division</li> <li>Track contract costs post-bid against targets</li> <li>Outline concession evaluation report requirements and review prior to public disclosure</li> </ul>	<ul style="list-style-type: none"> <li>Monthly reporting on capex and rightsizing</li> <li>Reporting on contract re-bid savings as and when relevant</li> <li>One-off reporting on concession evaluation</li> </ul>	<ul style="list-style-type: none"> <li>Quarterly reporting of capex and rightsizing</li> <li>Reporting on contract re-bid savings as and when relevant</li> <li>One-off reporting on concession evaluation</li> </ul>

<sup>1</sup> Implementation plans are high-level and meant to be refined, finalized and submitted to FOMB within 2 months of certification

<sup>2</sup> Implementation plan development and progress towards the post-certification reporting requirements will be supervised and monitored by the FOMB.

## APPENDIX: FHWA MOU

Following years of operational and organizational challenges to effectively and efficiently deploy federal funds in compliance for with Federal requirements, **PRHTA and FHWA signed a Memorandum of Understanding<sup>1</sup> on February 29, 2016 geared at revamping PRHTA's Project and Program Delivery capabilities.**

### PRHTA Challenges

- More than \$400 million in available funding is not deployed due to delayed processes for project advancement, project completion and provider payments
- Outdated and non-standard documentation and requirements
- Lack of communication and feedback integration between planning and construction departments
- Increased project costs and overruns from original budgets
- Misalignment of current capabilities with needed core competencies

### MOU between PRHTA and FHWA

- Establishes procedures, systems and project delivery objectives for the Puerto Rico Highway Program
- Identifies roles , responsibilities and actions for the PRHTA and the FHWA to accelerate the funding, planning, design and construction of various highway, bridge and transportation improvement projects
- Improves the economic vitality of the
- Government of Puerto Rico and serves as a catalyst for sustainable job growth associated with highway construction in Puerto Rico

<sup>1</sup> MOU signed by the government of Puerto Rico and Federal Highway Administration

SOURCE: Signed Memorandum of Understanding MOU-PR2016-02-29-094734

# MOU requirements and current status of initiatives

● Not Started ● In Process ● Completed

Initiative	Description	Status
Federal Aid Billing Procedures	<ul style="list-style-type: none"> <li>Revise and submit to FHWA its billing process to ensure prompt payment to contractors as follow:                             <ul style="list-style-type: none"> <li>Paying all contractors by EFT</li> <li>Paying all contractors within 40 days of receipt of invoices</li> <li>Tracking status of payments using electronic method acceptable to FHWA</li> <li>Paying all contractors on the first business day after funds are received from FHWA</li> </ul> </li> </ul>	<p>Completed on Q2 2016. Tracking status of payments will be upgraded with E-Business Suite and Program Management Information System (PMIS)</p> <p>●</p>
Toll Credits	<ul style="list-style-type: none"> <li>Validate that PRHTA's existing toll credit balance complies with current FHWA guidance (the current guidance at the time of execution of this Agreement is "Interim Guidance- Toll Credit for non-federal Share, Nov 20, 2015)</li> <li>Identify that amount of toll credits available for use by PRHTA, and</li> <li>Identify modifications that PRHTA must make to its processes for approving, tracking and reconciling toll credit usage</li> </ul>	<p>In Q1 2016 PRHTA validated compliance with FHWA guidance and identified the amount of toll credits available. The tracking status of toll credits will be upgraded with PMIS.</p> <p>●</p>
Organizational Capacity Development	<ul style="list-style-type: none"> <li>Contract the services of a management consultant to assist the PRHTA to review and develop recommendations for streamline the PRHTA's project billing process, project delivery process, contracts standard language, training program, SOP's and applicable commonwealth laws or regulation.</li> </ul>	<p>Notice to Proceed (NTP) provided on 3/2017</p> <p>Consultant is conducting assessment and is expected to complete the recommendations by Q2 2018.</p> <p>●</p>
Expediting Project Delivery	<ul style="list-style-type: none"> <li>Procure services to improve systems such as email communication, electronic project monitoring system, improvements to financial billing system in order to reduce the PRHTA's obligated but unexpected balances.</li> <li>Submit to the FHWA a report identifying the reasons for the delay of every project that the PRHTA has obligated, but for which less than 5% of funds have been expended since the date a recorded obligation existed</li> <li>Develop and Submit to the FHWA a schedule with milestones to accelerate obligation of its annual Federal-aid allocation to ensure all funds are properly obligated before redistribution of Federal-aid obligation limitation</li> </ul>	<p>The email migration was completed in 2/2017. Improvements of email communications was completed in July 2017.</p> <p>PMIS is on schedule with a go live date for core functionality Phases 1&amp;2 to be completed Q2 2018. E-bidding and contract management will be complete in Q1 2019.</p> <p>E-Business Suite implementation Consultant has been awarded and expected NTP 3/2018.</p> <p>●</p>

SOURCE: Signed Memorandum of Understanding MOU- PR2016-02-29-094734

# MOU initiatives encompass all elements needed to create an effective organization

	Federal Aid Billing Procedures	Toll Credits	Organizational Capacity Development (LEAN)	Expediting Project Delivery
Processes	<ul style="list-style-type: none"> <li>Develop an <b>efficient billing process</b> with <b>specific goals</b> to <b>ensure on-time payment</b> to contractors</li> <li>Ensure <b>best practices</b> and <b>guarantee financial accuracy</b> and consistency</li> </ul>	<ul style="list-style-type: none"> <li>Identify <b>improvements</b> for the <b>approval, tracking and reconciling</b> of toll credit usage</li> </ul>	<ul style="list-style-type: none"> <li>Implement a LEAN Project delivery and billing process that will result in <b>higher quality</b> projects, faster project completion and <b>more efficient delivery</b></li> </ul>	<ul style="list-style-type: none"> <li>Establish processes to provide <b>continuous visibility</b> to under performance projects and allow for <b>effective development of action plans</b></li> </ul>
Organization			<ul style="list-style-type: none"> <li>Develop capacity analysis to <b>correctly size</b> the needed organization to support the process</li> </ul>	
	<ul style="list-style-type: none"> <li>Establish <b>measurable goals</b> tied to the development of the agency's goals and objectives</li> <li>Tracking the status of payments                             <ul style="list-style-type: none"> <li>with electronic methods</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Establish critical KPI's that are essential for <b>auditing</b> and <b>validating compliance</b> with FHWA guidance</li> </ul>	<ul style="list-style-type: none"> <li>Establish measurable performance levels and <b>KPI's</b> to improve <b>process visibility</b> and track whether projects are <b>achieving targets</b></li> <li>Develop an effective method for capturing <b>voice of the client</b> to support <b>performance measurement and strategic decision making</b></li> </ul>	<ul style="list-style-type: none"> <li>Implementation of <b>systems for email and electronic monitoring</b> to increase <b>visibility and communication</b> between areas</li> </ul>
Culture		<ul style="list-style-type: none"> <li><b>Train personnel</b> on toll audit process to ensure compliance</li> </ul>	<ul style="list-style-type: none"> <li>Promote <b>collaborative culture</b> <ul style="list-style-type: none"> <li>and <b>communication</b></li> </ul> </li> <li>Establish agenda for workshops and trainings to <b>develop core competencies and deliver business value</b></li> </ul>	

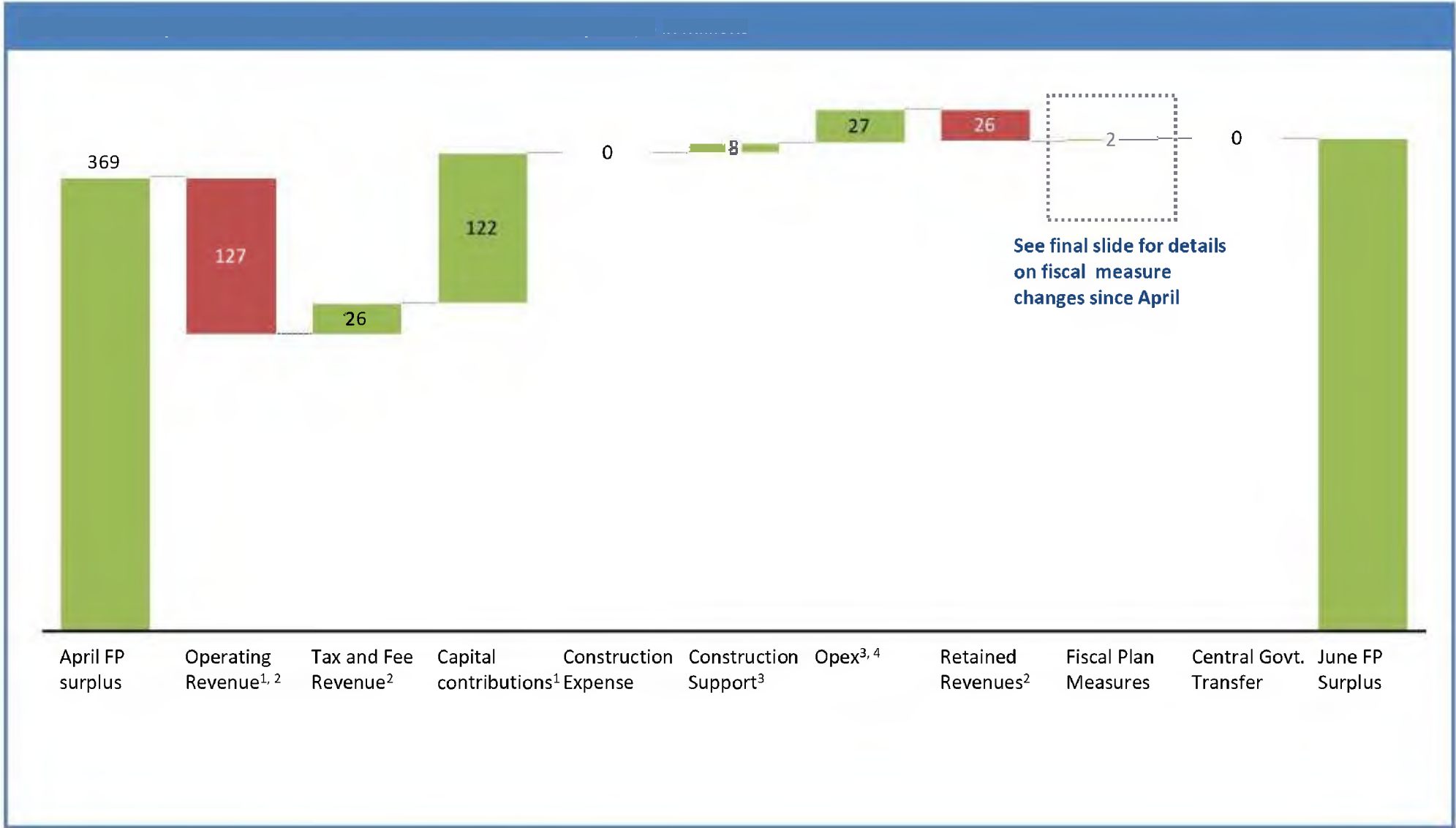
Source: Signed Memorandum of Understanding MOU-PR2016-02-29-094734



## **APPENDIX: Summary Fiscal Plan Bridges to April 2018**

# Fiscal Plan Bridge, April 2018 to Current: Summary

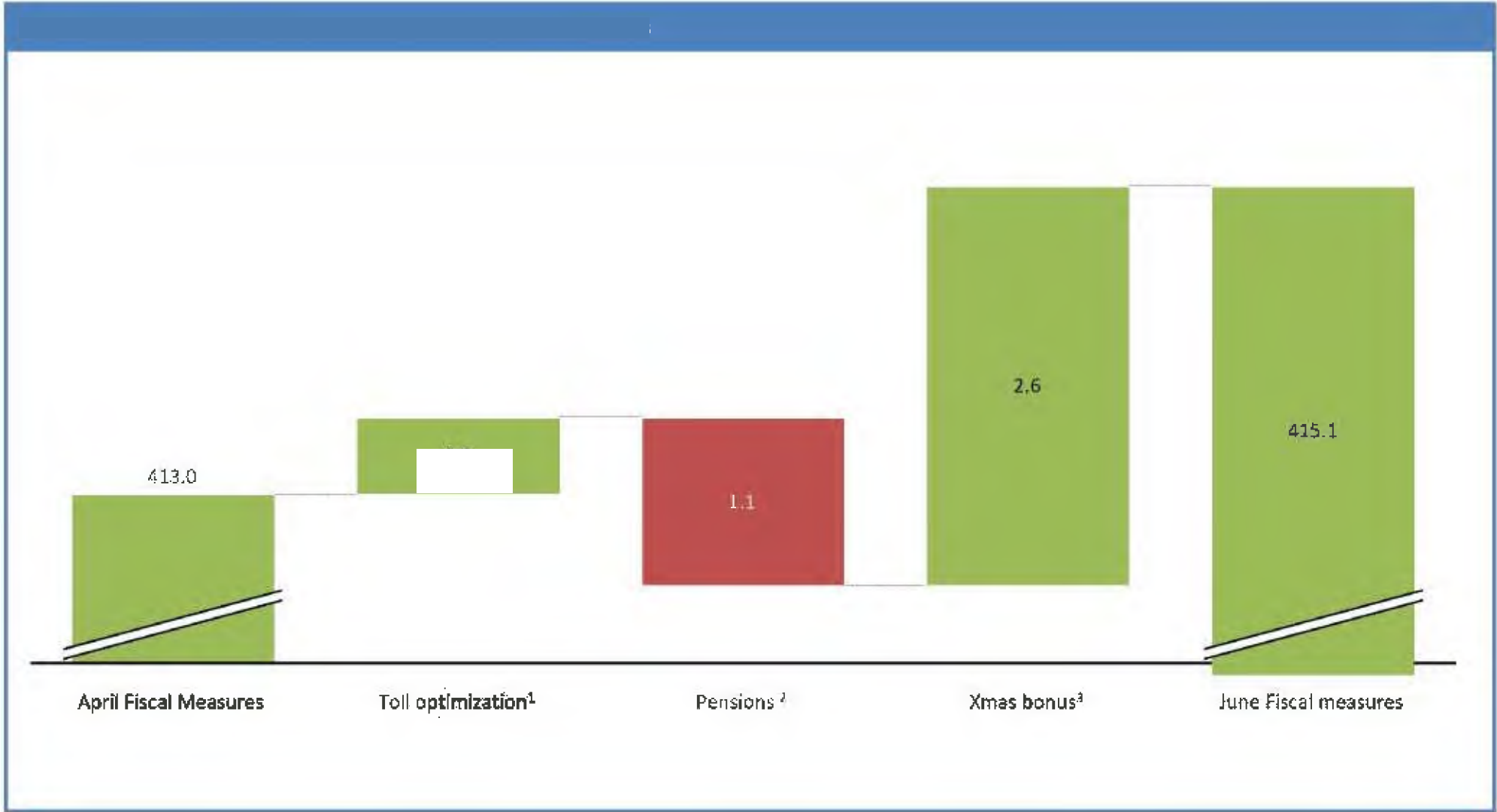
■ Negative contribution  
■ Positive contribution



1 Driven by reclassification of \$121M in FTA grants from transit revenues to transit funds  
2 Driven by revised macro projections per CW June Fiscal Plan  
3 Driven by lower PayGo contributions per revised estimate from ASR  
4 Driven by revised professional fees to align with CW Fiscal Plan

# Fiscal Plan Bridge, April 2018 to Current: Detail, Fiscal Measures

■ Negative contribution  
■ Positive contribution



1 Reflecting revised macro projections in CW June Fiscal Plan  
2 Reflecting revised (lower) pension baseline  
3 Per CW June Fiscal Plan